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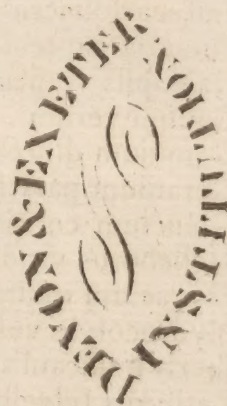




# I N D E X I.

In which the Plants contained in the sixth Fasciculus are arranged according to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 <i>Salvia verbenaca</i> .....	DIANDRIA <i>Monogynia</i> .
2 <i>Veronica triphyllos</i> .....	
3 <i>Valeriana officinalis</i> .....	TRIANDRIA <i>Monogynia</i> .
4 <i>Melica nutans</i> .....	
5 <i>Bromus diandrus</i> .....	TRIANDRIA <i>Digynia</i> .
6 <i>Aira caryophyllea</i> .....	
7 <i>Festuca pratensis</i> .....	
8 <i>Festuca elatior</i> .....	
9 <i>Festuca loliacea</i> .....	
10 <i>Poa retroflexa</i> .....	TETRANDRIA <i>Monogynia</i> .
11 <i>Poa procumbens</i> .....	
12 <i>Agrostis fetacea</i> .....	
13 <i>Galium verum</i> .....	PENTANDRIA <i>Monogynia</i> .
14 <i>Primula farinosa</i> .....	
15 <i>Primula officinalis</i> .....	
16 <i>Primula acaulis</i> .....	
17 <i>Datura Stramonium</i> .....	PENTANDRIA <i>Digynia</i> .
18 <i>Pulmonaria maritima</i> .....	
19 <i>Hydrocotyle vulgaris</i> .....	
20 <i>Chenopodium murale</i> .....	
21 <i>Chenopodium rubrum</i> .....	
22 <i>Caucalis Anthriscus</i> .....	HEXANDRIA <i>Monogynia</i> .
23 <i>Caucalis infesta</i> .....	
24 <i>Chærophyllum temulum</i> .....	DECANDRIA <i>Digynia</i> .
25 <i>Scilla autumnalis</i> .....	
26 <i>Saxifraga Hirculus</i> .....	DECANDRIA <i>Trigynia</i> .
27 <i>Saxifraga oppositifolia</i> .....	
28 <i>Stellaria uliginosa</i> .....	DECANDRIA <i>Pentagynia</i> .
29 <i>Cerastium arvense</i> .....	
30 <i>Cerastium pumilum</i> .....	
31 <i>Cerastium tetrandrum</i> .....	POLYANDRIA <i>Monogynia</i> .
32 <i>Glaucium corniculatum</i> .....	
33 <i>Cistus guttatus</i> .....	POLYANDRIA <i>Polygynia</i> .
34 <i>Helleborus viridis</i> .....	
35 <i>Anemone apennina</i> .....	
36 <i>Ranunculus arvensis</i> .....	
37 <i>Ranunculus Flammula</i> .....	DIDYNAMIA <i>Gymnospermia</i> .
38 <i>Galeopsis versicolor</i> .....	
39 <i>Melittis Melissophyllum</i> .....	DIDYNAMIA <i>Angiospermia</i> .
40 <i>Melissa Nepeta</i> .....	
41 <i>Antirrhinum Peloria</i> .....	TETRADYNAMIA <i>Siliculosa</i> .
42 <i>Iberis nudicaulis</i> .....	
43 <i>Thlaspi arvense</i> .....	TETRADYNAMIA <i>Siliquosa</i> .
44 <i>Sisymbrium Nasturtium</i> .....	
45 <i>Geranium dissectum</i> .....	MONADELPHIA <i>Decandria</i> .
46 <i>Geranium parviflorum</i> .....	
47 <i>Fumaria capreolata</i> .....	DIADELPHIA <i>Hexandria</i> .
48 <i>Trifolium scabrum</i> .....	
49 <i>Trifolium ochroleucum</i> .....	DIADELPHIA <i>Decandria</i> .
50 <i>Trifolium arvense</i> .....	
51 <i>Lathyrus Nissolia</i> .....	
52 <i>Lathyrus Sylvestris</i> .....	SYNGENESIA <i>Polygamia Æqualis</i> .
53 <i>Ornithopus perupillus</i> .....	
54 <i>Carduus polyacanthos</i> .....	
55 <i>Carduus tenuiflorus</i> .....	
56 <i>Carduus palustris</i> .....	
57 <i>Carduus arvensis</i> .....	SYNGENESIA <i>Polygamia Superflua</i> .
58 <i>Hieracium umbellatum</i> .....	
59 <i>Leontodon hirtum</i> .....	
60 <i>Chrysanthemum fegetum</i> .....	SYNGENESIA <i>Polygamia Frustranea</i> .
61 <i>Achillea Millefolium</i> .....	
62 <i>Centaurea Cyanus</i> .....	SYNGENESIA <i>Monogamia</i> .
63 <i>Lobelia urens</i> .....	
64 <i>Orchis fusca</i> .....	GYNANDRIA <i>Digynia</i> .
65 <i>Orchis bifolia</i> .....	
66 <i>Ophrys anthropophora</i> .....	
67 <i>Ophrys fucifera</i> .....	MONOECIA <i>Triandria</i> .
68 <i>Carex ventricosa</i> .....	
69 <i>Urtica dioica</i> .....	MONOECIA <i>Tetrandria</i> .
70 <i>Urtica urens</i> .....	
71 <i>Salix monandra</i> .....	DIOECIA <i>Diandria</i> .
72 <i>Salix triandra</i> .....	





# I N D E X II.

Latin Names of the Plants in the sixth Fasciculus, arranged Alphabetically.

	Plate
Achillea Millefolium	61
Agrostis setacea	12
Aira caryophylla	6
Anemone apennina	35
Antirrhinum Peloria	41
Bromus diandrus	5
Carduus polyacanthos	54
Carduus tenuiflorus	55
Carduus palustris	56
Carduus arvensis	57
Carex ventricosa	68
Caucalis Anthriscus	22
Caucalis infesta	23
Centaurea Cyanus	62
Cerastium arvense	29
Cerastium pumilum	30
Cerastium tetrandrum	31
Chenopodium murale	20
Chenopodium rubrum	21
Chærophyllum temulum	24
Chrysanthemum segetum	60
Cistus guttatus	33
Datura Stramonium	17
Festuca pratensis	7
Festuca elatior	8
Festuca loliacea	9
Fumaria capreolata	47
Galeopsis vericolor	38
Galium verum	13
Geranium dissectum	45
Geranium parviflorum	46
Glaucium corniculatum	32
Helleborus viridis	34
Hieracium umbellatum	58
Hydrocotyle vulgaris	19
Iberis nudicaulis	42
Lathyrus sylvestris	52
Lathyrus Nissolia	51
Leontodon hirtum	59
Lobelia urens	63
Melica nutans	4
Melissa Nepeta	40
Melittis Melissophyllum	39
Ophrys anthropophora	66
Ophrys fucifera	67
Orchis fusca	64
Orchis bifolia	65
Ornithopus perpusillus	53
Poa retroflexa	10
Poa procumbens	11
Primula farinosa	14
Primula officinalis	15
Primula acaulis	16
Pulmonaria maritima	18
Ranunculus arvensis	36
Ranunculus Flammula	37
Salix monandra	71
Salix triandra	72
Salvia verbenaca	1
Saxifraga Hirculus	26
Saxifraga oppositifolia	27
Scilla autumnalis	25
Sisymbrium Nasturtium	44
Stellaria uliginosa	28
Thlaspi arvense	43
Trifolium scabrum	48
Trifolium arvense	50
Trifolium ochroleucum	49
Urtica dioica	69
Urtica urens	70
Valeriana officinalis	3
Veronica triphyllos	2

# I N D E X III.

English Names of the Plants in the sixth Fasciculus, arranged Alphabetically.

	Plate
Agrostis Sheep's fescue-leaved	12
Anemone mountain	35
Bastard-Balm	39
Bedstraw yellow	13
Bird's-eye	14
Bird's-foot common	53
Blue-bottle corn	62
Brome-grass diandrous	5
Calamint field	40
Carex turgid	68
Caucalis hedge	22
Caucalis corn	23
Cistus spotted-flowered	33
Clover yellow	49
Corn-marygold	60
Cow-parsley small	24
Cowslip	15
Cranes-bill jagged	45
Cranes-bill small-flowered	46
Crowfoot corn	36
Dandelion deficient	59
Everlasting-Pea narrow-leaved	52
Fescue-grass meadow	7
Fescue-grass tall	8
Fescue-grass darnel	9
Fumitory ramping	47
Galeopsis particoloured	38
Goosefoot nettle-leaved	20
Goosefoot small-feeder	21
Hair-grass silver	6
Hawkweed bushy	58
Hellebore green	34
Horned-Poppy red	32
Lathyrus crimson	51
Lobelia acrid	63
Lung-wort sea	18
Melic-grass mountain	4
Meadow-grass reflexed	10
Meadow-grass procumbent	11
Mouse-Ear Chickweed corn	29
Mouse-Ear Chickweed dwarf	30
Mouse-Ear Chickweed tetrandrous	31
Nettle great	69
Nettle small	70
Ophrys man	66
Ophrys green-winged	67
Orchis great	64
Orchis butterfly	65
Peloria	41
Penny-cress	43
Penny-wort marsh	19
Primrose	16
Rock-cress	42
Sage or Clar wild	1
Saxifrage marsh	26
Saxifrage purple	27
Spearwort mall	37
Speedwell rigid	2
Squill autumnal	25
Stichwort bog	28
Thistle pickle	54
Thistle slender-flowered	55
Thistle marsh	56
Thistle urfed	57
Thornapple	17
Trefoil rough	48
Trefoil haresfoot	50
Valerin wild	3
Water-cress	44
Willow bitter	71
Willow three-threaded	72
Yarrow common	61









*Salvia Verbenaca*



# SALVIA VERBENACA. WILD SAGE, or CLARY.

SALVIA Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Corolla inæqualis. Filamenta transverse pedicello affixa.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

SALVIA *Verbenaca* foliis ferratis sinuatis læviusculis, corollis calyce angustioribus. Linn. Syst. Vegetab. ed. 14. p. 70. Sp. Pl. p. 35. Lightfoot Scot. v. 1. p. 79. Hudf. Fl. Angl. ed. 2. p. 10.

HORMINUM sylvestre Lavendulæ flore. Baub. Pin. 239. Park. Tb. p. 57. Wild Clary with Spike Flowers. Raii Syn. ed. 3. p. 237. Common English wild Cary.

HORMINI sylvestris IIII. quinta species. Clus. 2. p. xxxi.

HORMINUM sylvestre. Ger. Herb. p. 628. Wild Clarie or Oculus Christi; as to the description, the figure doubtful, the radical leaves being too pointed and the flowers too large. Ger. emac. p. 771. f. 1.

RADIX perennis, fusca, crassitie digiti intermedii descendens, plurimis fibris capillata.

CAULES erectiusculi, bipedales, tetragoni, pilosi, pilis horizontalibus, subviscidis, ad nodos præcipue purpurascens, ramosi; Rami oppositi.

FOLIA radicalia longe petiolata, variabilia, oblonga, apice nunc rotundata, nunc acutiuscula, basi nonnunquam cordata, sæpius vero folium in petiolum utrinque decurrit et ad unum latus longius extenditur, hirsutula, sinuato-serrata, subtus pallidiora, venosa et punctis glandulosis excavatis notata; caulina remotiuscula, inferiora petiolata, petiolis brevioribus, suprema sessilia.

FLORES verticillati, verticillis nudiusculis, subsexfloris.

BRACTEÆ cordatæ, acuminatæ, deflexæ, floribus breviores.

CALYX: PERIANTHIUM monophyllum, bilabiatum, purpurascens, viscidulum, persistens; labium superius obovatum, mucrone brevi sæpius terminatum, trinerve, nervis duobus abbreviatis, labium inferius nervosum ad dimidiam fere bifidum; laciniis ovato-lanceolatis, mucronatis, sursum curvatis, fig. 1.

COROLLA monopetala, inæqualis, violacea, calyce paulo longior; *Tubus* superne ampliatus, compressus; *Limbus* ringens; *Labium* superius concavum, compressum, incurvum, emarginatum; *Labium* inferius latum, trifidum, lacinia media majori, rotundata, depressa, emarginata, fig. 2.

STAMINA: FILAMENTA duo, brevia; ANTHERÆ oblongæ, nigræ, fig. 3.

PISTILLUM: GERMEN quadrifidum; STYLUS filiformis, longus; STIGMA bifidum, fig. 4.

SEMINA quatuor in fundo calycis, subrotunda, nigra, fig. 5, 6.

ROOT perennial, brown, the thickness of the middle-finger, striking deep into the earth, and furnished with numerous fibres.

STALKS nearly upright, two feet high, four-cornered, hairy (hairs horizontal, somewhat viscid) purplish, especially at the joints, branched; Branches opposite.

LEAVES next the root standing on long footstalks, variable in their form, oblong, sometimes rounded at the extremity, sometimes a little pointed, not unfrequently heart-shaped at the base, but more commonly the leaf runs down on each side of the footstalk, and to a greater length on the one side than on the other, very slightly hirsute, on the margin irregularly waved and sawed or toothed, of a paler colour on the under side, veiny and marked with small glandular concave dots; the stalk-leaves somewhat remote, the lowermost of them standing on short foot-stalks, the uppermost sessile.

FLOWERS growing in whorls, somewhat naked, containing about six flowers.

FLORAL-LEAVES heart-shaped, long-pointed, turned down, shorter than the flowers.

CALYX: a PERIANTHIUM of one leaf, two lip'd, purplish, slightly viscid, and continuing; the upper lip obovate, most commonly terminated by a short point, three-rib'd, two of which are much shorter than the middle one; the lower lip rib'd, divided nearly half way down, segments ovato-lanceolate, pointed, turned up, fig. 1.

COROLLA monopetalous, unequal, violet-coloured, a little longer than the calyx; *Tube* above enlarged, flattened; *Limb* gaping; upper *Lip* concave, flattened, bent downwards, emarginate; lower *Lip* broad, trifid, middle segment largest, rounded, depressed, emarginate, fig. 2.

STAMINA: TWO FILAMENTS, short; ANTHERÆ oblong, black, fig. 3.

PISTILLUM: GERMEN quadrifid; STYLE filiform, long; STIGMA bifid, fig. 4.

SEEDS four in the bottom of the calyx, of a roundish figure and black colour, fig. 5, 6.

The *Salvia Verbenaca* is a common plant, not only in dry pastures and uncultivated places near London, but generally throughout the kingdom; we have frequently remarked that it very often occurs in Church-Yards.

It flowers during most of the summer, and towards autumn produces abundance of seeds, which scattering on the ground, and readily growing, dispose this plant soon to become a weed.

It varies considerably in size, and very much in the form of its leaves; when bruised it emits a strong and somewhat unpleasant smell.

The seed put into water soon becomes invested with a thick mucilage.

Formerly it had some reputation as a medicinal plant; GERARD tells us, "That the seede put whole into the eies clenseth and purgeth them exceedingly from waterish humours, rednesse, inflammation, and divers other maladies, or all that happen unto the eies; and takes away the pain and smarting thereof, especially being put into the eies one seed at one time and no more." RAY, who was too credulous in matters of this sort, attributes their efficacy to their form and smoothness; we have heard their mode of operating accounted for in some other way: but surely there is a manifest absurdity in the idea thus entertained of their efficacy, and no small danger attendant on their use: the putting a hard substance into a part naturally so tender as the eye, must at any time be sufficient to excite inflammation, and at all times increase it; we therefore caution such of our readers as are fond of using the edged tools of medicine, to be on their guard against applying so doubtful a remedy in diseases of an organ so exquisitely formed.





*Veronica triphyllos*



# VERONICA TRIPHYLLOS. TRIFID SPEEDWELL.

VERONICA. *Linn. Gen. Pl.* DIANDRIA MONOGYNIA.

*Cor.* Limbo 4-partito, lacinia infima angustiore. *Caps.* bilocularis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *triphyllus* floribus solitariis, foliis digitato partitis, pedunculis calyce longioribus. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 60. *Scop. Fl. Carn. ed.* 2. n. 25. *Hudsf. Fl. Angl. ed.* 2. p. 7. *triphylla. Flor. Suec. ed.* 2. p. 7.

VERONICA foliis ovatis, tripartitis, et quinquepartitis, floribus longe petiolatis. *Hall. Hist.* 551.

VERONICA flosculis singularibus, foliis laciniatis, erecta. *Raii Syn. ed.* 3. p. 280. Upright Speedwell with divided leaves.

ALSINE *triphyllus* cærulea. *Bauh. Pin.* 250.

ALSINE parva recta, folio Alfinæ hederaceæ Rutæ modo diviso. *Lob. icon.* 464.

ALSINE recta. Right Chickweede. *Ger. Herb. p.* 489. *emac. p.* 612. f. 5.

ALSINE recta *triphyllus*, five laciniata. *Park. Th. p.* 760. Upright Chickweede with jagged leaves.

ALSINE recta flore cæruleo. Upright blew Chickweede. *Park. Th. p.* 1260. f. 6.

ALSINE folio profunde secto, flore purpureo seu violaceo. *I. B.* 3. 367.

VERONICA folio Rutæ. *Riv. t.* 96.

RADIX annua, fibrosa.

CAULES plures, subpalmares, erectiusculi, teretes, superne viscidi, pallide virides, aut subrubentes, pendente florescentia subnutantes.

FOLIA patentia, remotiuscula, alterna et opposita, crassiuscula, utrinque pilosa, subtus sæpe rubentia, inferiora cordato-ovata, brevissime petiolata, superiora sessilia, digitato-quinquepartita, et tripartita, laciniis cuneiformibus, intermedia maxima.

FLORES axillares, solitarii, saturate et splendide cærulei; *Pedunculi* foliis breviores.

CALYX: PERIANTHIUM monophyllum, persistens, quadripartitum, laciniis obovatis, foliis supermis plantæ similibus, *fig.* 1.

COROLLA monopetala, rotata, calyce minor; *Tubus* brevissimus, albus; *Limbus* quadripartitus, planus, laciniis ovatis, infima angustiore, huic opposita latiore, *fig.* 2.

STAMINA: FILAMENTA duo, inferne angustiora, alba; ANTHERÆ oblongæ, cæruleæ, *fig.* 3.

PISTILLUM: GERMEN compressum; STYLUS filiformis, longitudine flaminum; STIGMA simplex, albidum, *fig.* 4.

PERICARPIUM: CAPSULA magna, obcordata.

SEMINA plurima, e fusco nigricantia, hinc convexa, gibba, rugosa, illinc concava.

ROOT annual, fibrous.

STALKS numerous, about a hand's breadth high, nearly upright, round, on the upper part viscid, of a pale green or reddish colour, drooping a little during the flowering period.

LEAVES spreading, rather remote, alternate and opposite, thickish, hairy on both sides, often reddish on the under side, the lowermost heart-shaped ovate, standing on very short footstalks, the upper ones sessile, fingered, or divided deeply into five and three parts, the segments wedge-shaped, the middle one very large.

FLOWERS placed singly in the bosoms of the leaves, of a deep and bright blue colour; *Flower-stalks* shorter than the leaves.

CALYX: a PERIANTHIUM of one leaf, continuing, deeply divided into four segments, which are obovate, and like the uppermost leaves of the plant, *fig.* 1.

COROLLA monopetalous, wheel-shaped, smaller than the calyx; *Tube* very short and white; *Limb* deeply divided into four segments, flat, segments ovate, lowermost one narrower, uppermost one broader than the rest, *fig.* 2.

STAMINA: two FILAMENTS, narrowest below, white; ANTHERÆ oblong, blue, *fig.* 3.

PISTILLUM: GERMEN flattened; STYLE filiform, the length of the stamina; STIGMA simple, whitish, *fig.* 4.

SEED-VESSEL: a large CAPSULE, inversely heart-shaped.

SEEDS numerous, of a blackish brown colour, convex, gibbous, and wrinkled on one side, hollow on the other.

The *Veronica triphyllus*, a plant common to most parts of Europe, and chiefly found in corn-fields, where the soil is light, is of very partial growth in this country, and found principally in the counties of Norfolk\* and Suffolk; we have received specimens of it from Sir THOMAS FRANKLAND, gathered by him in Yorkshire.

It flowers very early in the spring, in March, and April, and ripens its seeds in June, from these spontaneously scattered, young plants come up readily in autumn; in favourable soils this species, like the *hederifolia* and *agrestis*, seems much disposed to become a weed; but, like them, is too trifling to be injurious.

C. BAUHINE mentions two varieties of this Veronica, one with larger and thicker leaves, the other with smaller ones; these scarcely deserve the name of varieties; HALLER observes, that six inches is the utmost height of the plant, we have seen it much taller; the summits of the flowering branches for the most part bend somewhat downwards, a peculiarity of the plant which we have not found noticed by authors.

This species is too distinct to be mistaken for any other English one, its divided leaves, the deep rich blue colour of its flowers, and the largeness of its seed-vessels obviously distinguish it.

*Triphyllus*, a name given to it by some of the old Botanists, is not always applicable, the leaves in young plants particularly, being often divided into more than three segments.

\* At Rowton in Norfolk, betwixt the town and the highway, twelve miles before you come to Norwich; at Mewel in Suffolk, between the two windmills and the warren-lodge; in the gravel-pits, two miles beyond Barton Mills, on the ridge of the hill where a small cart-way crosseth the road to Lynn; and in the grass thereabouts, plentifully. TH. WILLISEL. *Ray's Syn. ed.* 3. p. 280.



# VALERIANA OFFICINALIS. WILD. VALERIAN.

VALERIANA. *Linn. Gen. Pl.* TRIANDRIA MONOGYNIA.

*Cal. o. Cor. 1.* petala, basi hinc gibba, supera.

*Raii Syn. Gen. 10.* HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS, SEU AD SINGULOS FLORES SINGULIS.

VALERIANA *officinalis* floribus triandris, foliis omnibus pinnatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 80. Sp. Pl. ed. 2. p. 40. Fl. Suec. n. 34. Scop. Fl. Carn. ed. 2. n. 39. Berg. Mat. Med. p. 30. Hudson Fl. Angl. ed. 2. p. 12. Lightfoot Scot. V. 1. p. 85.*

VALERIANA foliis pinnatis, pinnis dentatis. *Hall. Hist. n. 210.*

VALERIANA sylvestris major. *Baub. Pin. 164. Ger. Herb. p. 917. fig. 2. Great Wild Valerian, emac. 1075. fig. 2. Threlk Syn.*

VALERIANA sylvestris. Wilde Valerian. *Park. Tb. p. 123. f. 13.*

VALERIANA sylvestris magna aquatica. *J. Baub. III. 2. 211. Raii Syn. ed. 3. p. 200. Great Wild Valerian.*

RADIX perennis, subpræmorfa, fibrosa, fibris plurimis, majusculis, stolonem unum alterumve longe protensum e caudice emittens.

CAULIS pedalis ad tripedalem, et ultra, erectus, teres, fulcatus, fistulosus, hinc hirsutus, terminans in ramos floriferos brachiatim dispositos.

FOLIA opposita, connata, basi subtus barbata, pinnata; Costa leviter pubescens; Foliola 11 ad 13, nunc opposita, nunc alterna, subdecurrentia, lanceolato-oblonga, acutiuscula, inæqualiter remoteque dentata, venoso-rugosa, subtus pallidiora, pilosiuscula, foliolium terminale trilobatum; Folia suprema floralia trifida, et subsimplicia.

FLORES subcorymbosi terminales, albido-carnei, odore singulari præditi; PEDUNCULI ramossissimi, multoties dichotomi.

BRACTEÆ lanceolatae, acuminatae, connatae, albentes, nervo viridi.

CALYX nullus, margo superus minutus, *fig. 1.*

COROLLA tubulosa, tubo a latere inferiore nectarifero, gibbo, *fig. 2. Limbo* quinquefido, laciniis obtusis, *fig. 3.*

STAMINA: FILAMENTA tria, erecta, Corollâ longiora, amisso polline recurvantia; ANTHERÆ subrotundæ, floribus concolores, *fig. 4.*

PISTILLUM: GERMEN conicum, inferum; STYLUS filiformis, longitudine staminum; STIGMA crassiusculum, obtusum, album, trifidum, *fig. 5.*

SEMINA solitaria, ovato-oblonga, compressa; Pappus radiis duodecim plumosis, basi purpurascens, *fig. 6.*

ROOT perennial, somewhat flumped, fibrous, fibres numerous, large, sending out from its crown one or more long-extended creeping shoots.

STALK from one to three feet or more in height, upright, round, grooved, hollow, in some parts hairy, terminating in flowering branches disposed crosswise.

LEAVES opposite, connate, bearded at the base on the under side, pinnated; the Midrib somewhat downy; the Leaflets or Pinnæ 11 to 13, sometimes opposite, sometimes alternate, slightly decurrent, lanceolate-oblong, rather pointed, unevenly and distantly toothed, veiny, wrinkled, paler on the under side, slightly hairy; the terminating Leaflet three-lobed; the uppermost leaves on the flowering branches trifid, and sometimes entire.

FLOWERS growing in a kind of corymbus, terminal, of a pale flesh colour, and singular smell; FLOWER-STALKS much branched, and many times divided.

FLORAL-LEAVES, lanceolate, acuminate, connate, whitish, with a green midrib.

CALYX none, a slight margin on the top of the Germen, *fig. 1.*

COROLLA tubular, the tube producing from its lower side a gibbous nectary, *fig. 2. the Limb* divided into five obtuse segments, *fig. 3.*

STAMINA: three upright FILAMENTS, longer than the Corolla, bending back when the antheræ have shed their pollen; ANTHERÆ roundish, of the same colour as the flowers, *fig. 4.*

PISTILLUM: the GERMEN conic, beneath the Corolla, STYLE thread-shaped, the length of the stamina; STIGMA thickish, obtuse, white, and trifid, *fig. 5.*

SEEDS single, ovato-oblong, compressed, furnished with a Pappus having twelve feathery rays, of a purplish colour at the base, *fig. 6.*

The *Valeriana officinalis* here figured, grows wild with us in wet situations only, it more especially is found on the edges of wet ditches, often in osier-grounds, and in such situations is very common in most of the Southern parts of Great-Britain; sometimes, particularly in the Northern parts of the kingdom, it is found on more elevated and drier ground, where it becomes in every respect smaller, and more hairy; in such situations the roots are found to possess more fragrance, and are considered as preferable for medicinal purposes.

The flowers, when fresh, diffuse a peculiar kind of odour, almost too strong to be pleasant; the powerful smell of the dried root is known to most persons, and of this part of the plant cats are remarkably fond, not only eating it, but when they have an opportunity, perfuming themselves by rolling on it, and that on the fresh as well as dried roots; for I have often observed, that as the roots spread out near the surface of the ground, they find them out, and in gratifying their passion frequently destroy the plant in gardens; whenever they are insufferably mischievous in this or other respects, they may with certainty be caught in a wooden hutch trap, baited with Valerian root; we are not however wantonly to sacrifice this useful animal.

The *officinalis*, as well as some of the other species of Valerian, is very ornamental, but almost too large for the flower-garden, unless it be an extensive one; it flowers in June and July, and is easily cultivated, as it has creeping roots, which for medicinal purposes should be taken up early in the spring and carefully dried.

The mountain Valerian root has a strong, not agreeable smell, and an unpleasant, warm, bitterish, subacid taste; the strength of the smell and taste is the only mark to be depended on of its genuineness, and goodness. It is a medicine of great esteem in the present practice against obstinate hemicranæ, hysterical and the different kinds of nervous disorders, and is commonly looked upon as one of the principal antispasmodics. COLUMNA reports, that he was cured by it of an inveterate epilepsy, after many other medicines had been used in vain: on more extensive trials it has been found, in some epileptic cases to effect a cure, in several to abate the violence or frequency of the fits, and in many to prove entirely ineffectual: oftentimes, it either purges, or operates by sweat, or by urine, or brings away worms before it prevents a fit. The dose of the root in powder is from a scruple to a dram or two, which may be repeated if the stomach will bear it, two or three times a day. A remarkable instance of its efficacy in a Catalepsy is given by Mr. MUDGE: doses of half an ounce of the powder were exhibited twice a day, and a less quantity was found ineffectual.—Among the materials I have made trial of for covering its flavour, mace seemed to answer the best. *Lewis's Mat. Med. ed. Aik. p. 659.*

Dr. CULLEN considers it as an antispasmodic medicine of considerable efficacy, but observes, that he has frequently found it inefficacious, which he attributes partly to the best remedies failing in diseases which depend on a diversity of causes, and partly to the roots being employed in an improper condition; he is of opinion that it should be given in larger doses than is commonly done.





*Valeriana officinalis.*



# MELICA NUTANS. MOUNTAIN MELIC-GRASS.

MELICA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Corpusculum pedicellatum inter flosculos. Nectarium monophyllum. Stamina basi dilatata. Linn. Syst. Nat. ed. 13. Gmelin.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *nutans*, petalis imberbibus, panicula nutante simplici. Linn. Syst. Vegetab. ed. 14. Murr. p. 112. Sp. Pl. ed. 3. p. 98. Flor. Suec. ed. 2. p. 26. Scopoli Carn. ed. 2. p. 67. Lightf. Scot. v. 1. p. 95. Leers Herb. p. 25. Schreb. Agrost. p. 63. ic. 6.

MELICA *montana* petalis imberbibus, panicula coarctata, fecunda, erecta, subsimplici, floribus pendulis. Hudson Fl. Angl. ed. 2. p. 37.

POA panicula laxa, locustis nutantibus dianthis, alterno flosculo imperfecto. Haller Hist. n. 1472.

GRAMEN montanum avenaceum, locustis rubris. Baub. Pin. 10.

RADIX	perennis, fibrosa, subrepens.	ROOT	perennial, fibrous, somewhat creeping.
CULMI	pedales aut sesquipedales, simplices, erecti, foliosi, scabri, striati, subangulosi, inferne purpurei.	STALKS	a foot or a foot and a half high, simple, upright, leafy, rough, striated, somewhat angular, below purplish.
FOLIA	ad basin culmi brevia, squamæformia, fuscescentia, sicut ascendunt, longiora et angustiora evadunt; scabriuscula, lineam cum dimidia lata.	LEAVES	at the base of the stalk short, scale-like, brownish, as they ascend becoming longer and narrower, a line and a half broad, and slightly rough.
LIGULA	nulla.	MEMBRANE	at the base of the leaf wanting.
PANICULA	bi-triuncialis, subnutans, secunda, simplex, vel ramosa; pedunculis capillaribus, rachi subappressis, flexuosis, erectis, ad lentem villosis, præcipue ad flores ubi paululum incrassantur.	PANICLE	two or three inches long, bending down a little, with the flowers inclining one way, simple or branched; peduncles capillary, pressed to the rachis, crooked, upright, villous if magnified, especially at the flower, where they are somewhat thickened.
SPICULÆ	plerumque trifloræ, rudimento flosculi pedicellato clavato, fig. 3.	SPICULÆ	usually three-flowered, rudiment of the floret forming a sort of club, fig. 3.
CALYX	: Gluma bivalvis, valvulis inæqualibus, ovatis, obtusis, obsolete nervosis, primo purpureis, demum fuscescentibus. fig. 1.	CALYX	: a Glume of two valves, valves unequal, ovate, blunt, faintly ribbed, at first purple, lastly of a brownish hue, fig. 1.
COROLLA	: Gluma bivalvis, valvulis inæqualibus, exteriore magna, concava, ovata, multinervia, nervis plerisque mediam valvulæ vix attingentibus; interiore lata, plana, multo brevior, fig. 2.	COROLLA	: a Glume of two valves, valves unequal, the outer one large, concave, ovate, many-ribbed, most of the ribs scarcely reaching half its length; the inner one broad, flat, and much shorter, fig. 2.
STAMINA	: FILAMENTA 3 capillaria, distincta; ANTHERÆ flavæ, fig. 4. 8.	STAMINA	: 3 capillary FILAMENTS, quite distinct; ANTHERÆ yellow, fig. 4. 8.
GERMEN	: lato-ovatum, pellucidum; STYLI duo, inferne nudi, superne plumosi, patentes, fig. 6. 9.	GERMEN	: of a broad ovate form, and pellucid; STYLES two, naked below, above feathery, and spreading, fig. 6. 9.
NECTARIUM	: Glumulæ duæ, carnosæ, truncatæ, fig. 7.	NECTARY	: two little Glumes, fleshy, and truncated, fig. 7.

This elegant species of *Melica* inhabits rocky and shady situations in the more Northern parts of Europe; Mr. HUDSON mentions it as growing in the mountainous woods of Yorkshire, Westmoreland, and Cumberland; Mr. LIGHTFOOT plentifully in Scotland; we observed it abundantly in Grass-Wood, near Grassington, in the neighbourhood of Kilnsay, Yorkshire, a most romantic spot, and fertile in rare plants.

It flowers in July and August.

Mr. LIGHTFOOT observes that it varies with flowers nearly sessile, growing in a spike instead of a panicle.

LEERS description and delineation of the minute parts of the fructification in this species, contrary to what we generally find in his excellent work, distinguished and much depended on for its accuracy, are very erroneous; the filaments are not united at the base, nor is the nectary formed of one entire circular piece, but of two, having the appearance indeed of one, separable on a nice dissection; they do not entirely surround the germen; it is the more necessary to notice this circumstance, as it appears to have mislead Professor GMELIN, who makes the *Nectarium monophyllum* a part of the generic character in the *Melica*. Professor SCHREBER's magnified representation of the nectary, to which the same fault is imputable, may have contributed its share also.

SCHREBER, HALLER, and SCHEUCHZER, refer to the *gramen montanum spicatum* of CLUSIUS for our plant, but it accords so ill with it, both as to figure and description, that we suspect that author must have meant some other plant.

Genera undoubtedly run into one another, but surely there is a wide difference between the fructification of this plant and that of a *Poa*, to which it is referred by Baron HALLER, and of an *Aira*, to which Professor GMELIN hints that it might be joined.

This species of *Melica* is easily cultivated by parting and planting out its roots in autumn, it is to be admired for its elegance, but has little pretensions to be regarded for its utility.





*Helian mutans*

S. Edwards del. F. Sanyon sc.



# BROMUS DIANDRUS. DIANDROUS BROME-GRASS.

BROMUS *Linn. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis. *Spicula* oblonga, teres, disticha; arista infra apicem.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *diandrus* panicula erecto-patente, spiculis multifloris, flosculis diandris.

BROMUS *muralis* panicula patulo-erecta simplici, spiculis linearibus, floribus acuminatis scabris, aristis longis. *Huds. Fl. Angl. ed. 2. p. 50.*

BROMUS *madritensis* panicula rariore patulo-erecta; spiculis linearibus; intermediis geminis, pedicellis superne incrassatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 120. ?*

GRAMEN bromoides, pumilum, locustis erectis, majoribus, aristatis. *Scheuchz. Agr. ed. Hall. p. 260.*

BROMOS sterilis erecta panicula major. *Barr. ic. 76. n. 1.*

We many years since observed the grass here represented, growing on the wall of a garden near Battersea Church, situated at a small distance from the high-road which leads from the bridge to Battersea, out of which you turn in proceeding to the church;—a few yards down this turning, on the garden-wall to the right, it will readily be found: for on the same spot, we observed it again this present summer, in company with Mr. OGLE, Surgeon, Great Russell-Street, Bloomsbury; on the top of the wall it was in a stunted state, at the foot of it more luxuriant.

On the first discovery of this plant, I was induced, from a cursory view, to regard it as a variety of *Bromus sterilis*, with peduncles shorter than usual; but having introduced it to my garden, and found that several years culture made no alteration in its principal character, I had little doubt of its being a distinct species, and the little I had was completely removed, when I came to dissect the parts of fructification; for, to my great astonishment, I found that there were only two stamina to each flower, and that generally.

Growing in the same situation as the *sterilis*, it is a smaller plant; the spiculæ in the *sterilis* standing on long peduncles (whereby they are rendered weaker) constantly droop; in the *diandrus* the peduncles being short, support the spiculæ in an upright position; this gives a different air to the plant, which otherwise from the great similarity of its stalks, foliage, size and form of its spiculæ, would be very liable to be confounded with the *sterilis*.

In dry seasons, when the *Bromus diandrus* grows on walls, it is much shorter than the plant we have figured; in such situations, more particularly as the plant advances to maturity, the panicle closes together, and the spiculæ become of a brownish purple hue; in this state it differs still more obviously from the *sterilis*, and may be distinguished even at a distance: we are not, however, to regard this plant as confined to walls; like the *sterilis*, it is found on them by accident: we observed it in the year 1793, on the banks of the Severn, at the foot of St. Vincent's Rock, where my very good friend, Dr. FORD, then resident at Bristol, also observed it to grow in great plenty.

If our plant be the *Bromus madritensis* of LINNÆUS, which we are induced to believe, from its according so well with the figure of BARRELIER, to which he refers, it will be found to be a native of Spain, and Italy, and perhaps of other different parts of Europe: there can be little doubt of its being the *muralis* of Mr. HUDSON, though he has omitted to notice the peculiar circumstance of its having only two stamina, a phenomenon so unusual in plants of this tribe, that we have thought it ought to receive its trivial name from it, more especially as the plant is found to be confined to no particular country or situation.

It flowers in May and June, and ripens its seeds in July; is an annual of ready growth, and much disposed to become a weed.

Unless the flowers are examined when very young, the fresh stamina are not to be seen, but the flowers out of bloom generally retain them in a dried state.

Of foreign grasses there are several described with two stamina, in particular the *Saccharum Thunbergii* and *Koenigii*, and the *Agrostis diandra*, *Linn. Syst. Nat. ed. 13. Gmelin.* of our English grasses, none such as yet have been observed, besides the present one, and the *Anthoxanthum odoratum*.

## Partes Fructificationis.

Fig. 1. Glumæ Calycinæ.

Fig. 2. Glumæ Corollaceæ.

Fig. 3, 4, 5, 6. Gluma Corollacea interior, Stamina, Pistillum, Nectaria, lente auct.

Fig. 7. Pistillum magis auct.

## The Parts of the Fructification.

Fig. 1. The Glumes of the Calyx.

Fig. 2. The Glumes of the Corolla.

Fig. 3, 4, 5, 6. The inner Glume of the Corolla, Stamina, Pistillum, and Nectaries, magnified.

Fig. 7. The Pistillum more enlarged.





*Bromus diandrus*

S Edwards del F Sargfom.culp<sup>r</sup>



# AIRA CARYOPHYLLÉA. SILVER HAIR-GRASS.

AIRA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Flosculi absque interjecto rudimento.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *caryophyllea*, foliis fetaceis, panicula divaricata, floribus aristatis distantibus. Linn. Syst. Vegetab. p. 112. Sp. Pl. p. 97.

AVENA diantha, foliis fetaceis, panicula divaricata. Haller Hist. n. 1482.

AIRA foliis fetaceis, panicula trichotoma, floribus aristatis divergentibus. Hudson Fl. Angl. ed. 2. p. 36.

CARYOPHYLLUS arvensis glaber minimus. Baub. Pin. 210.

GRAMEN paniculatum purpuro-argenteum, locustis parvis annuum. Hist. Ox. III. 200. t. 5. f. 11.

GRAMEN paniculatum, locustis purpuro-argenteis annuum. Raii Syn. p. 407. Small annual fair-panicked Grass.

RADIX annua, fibrosa, fibris paucis, in terram vix descendentibus, unde plantula venti impetu facile eruitur.

CULMUS erectus, spithamæus, et ultra, teres, striatus, foliatus, bitrinodis.

FOLIA fetacea, brevia, rigidula, convoluta, erecta, glauca, obtusiuscula: Vaginæ longæ, striatæ, scabriusculæ, marginibus membranaceis albidis; Membrana magna, acuminata, demum bifida.

PANICULA divaricata; Pedunculi solitarii, in culta planta plerumque gemini, longi, ramosi, trifidi, glabri; Pedicelli breves, parum flexuosi; Flores distantes.

CALYX: Gluma biflora, bivalvis, valvulis ovato-lanceolatis, acutis, æqualibus, albidis, nitidis, basi subpurpureiscentibus, fig. 1.

COROLLA bivalvis, valvulæ sessiles, subæquales, calyce vix breviores, virescentes, acutæ, exteriore aristata, fig. 2. Arista prope basin egrediens, recta, alba, calyce dimidio longior, fig. 3.

STAMINA: FILAMENTA 3, capillaria, longitudine fere floris; ANTHERÆ oblongæ, utrinque furcatæ, fig. 4.

PISTILLUM: GERMEN ovatum; STYLI 2, patentes, plumosi, fig. 5.

SEMEN subovatum, tectum, fig. 6. denudatum.

ROOT annual, fibrous, fibres few, penetrating but a little way into the earth, whence the plant by the violence of the wind, is easily forced out of the ground.

STALK upright, about a span high, round, striated, leafy, with two or three joints.

LEAVES fetaceous, short, somewhat rigid, the edges rolled in, upright, glaucous, a little blunt: Sheaths long, striated, roughish, the edges membranous and white; the Membrane large, long-pointed, finally bifid.

PANICLE divaricated; Peduncles growing singly, in the cultivated plant usually two together, long, branched, trifid, and smooth; Pedicles short, somewhat crooked; Flowers distant.

CALYX: a Glume of two flowers, two-valved, the valves ovato-lanceolate, acute, equal, whitish, glossy, purplish at the base, fig. 1.

COROLLA two-valved, valves sessile, nearly equal, a little shorter than the calyx, greenish, pointed, the outer one awned, fig. 2. Awn proceeding from near its base, straight, white, longer by one half than the calyx, fig. 3.

STAMINA: 3 capillary FILAMENTS, nearly the length of the flower; ANTHERÆ oblong, forked at each end, fig. 4.

PISTILLUM: GERMEN ovate; STYLES 2, spreading, and feathery, fig. 5.

SEED somewhat ovate, covered with the corolla, fig. 6. denuded.

The *Aira caryophyllea* is found with us in situations nearly similar to those of the *Aira præcox*, already figured, viz. on sandy, barren heaths, and sometimes in fallow fields; it is not, however, to be met with in the same profusion, nor to be found with the same certainty.

It flowers in May and June, and as it is an annual, unless it be sought for about its flowering season, it will not easily be discovered.

Our figure represents the plant as it is usually found in its wild state; in richer soils it grows much larger, and in tufts of a considerable size.

We have no other *Aira* for which it can easily be mistaken, the *flexuosa* which frequently grows in the same situations is a perennial, and usually twice or thrice as high, its spiculæ also are larger, and more silvery, the *præcox* on the contrary is a smaller plant, and has a much closer panicle.

We never could discover the propriety of Mr. STILLINGFLEET's figuring this plant among his grasses; what has such a very insignificant annual to do with the improving of meadows and pastures?





*Aira*  
*caryophyllea*  
*Jyd T. E. Lindb. det. W. P.*



# FESTUCA PRATENSIS. MEADOW FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *pratensis* panicula secunda obliqua, spiculis muticis sublinearibus, foliis planis.

FESTUCA *elatior* Linn. Fl. Suec. n. 94.

FESTUCA *pratensis* panicula erecta, spiculis linearibus muticis, foliis planis. Hudson Fl. Angl. ed. 1. p. 37.

GRAMEN paniculatum elatius, spicis longis, muticis, squamosis. Raii Syn. p. 411. 16. Scheuch. Agroft. p. 202. 2.

PHŒNIX multiplici spicata panicula. Branched Darnel-Grass. Park. Theat. p. 1145.

GRAMEN loliaceum panicula multiplici et spicata. Tourn. Inst. p. 516. Scheuch. Agroft. p. 200. 1.

In the environs of London the *Festuca pratensis* is a very common grass, growing spontaneously in situations widely varied; we have observed it in the sand-pits at Charlton, and the other grounds near Battersea; also in various pastures, and by the sides of paths; but it abounds most in fertile meadows which are moderately moist: in many parts of Battersea meadows it may be found most plentifully.

It flowers about the middle of June; seed from a crop of it sown on ground which I occupy at Brompton, was ripe and cut by the end of the same month.

From long cultivation we have observed this grass continue perfectly distinct, and as we have found it to be a very hardy perennial, producing a great crop of desirable herbage, we have recommended it \* as one of the best of our British grasses.

Except in size, arising from luxuriance of soil, it is not subject to much variation.

Several authors have confounded this species with the *elatior*, to which it certainly bears great affinity: MORISON and RAY, two of our early writers have the credit of considering them as distinct. RAY, in his *Hist. Pl.* has happily displayed the character of the *pratensis*, and MORISON has well described and figured the *elatior*; it appears clearly also from the following words, which we find at the close of the latter's description of the *elatior*, that he regarded the *pratensis* as a distinct species, "alterum in pratis dimidio minus ejusdem formæ frequens invenitur, et tanquam distinctæ speciei habendum."—SCHEUCHZER gives a minute description of the *pratensis*, making two varieties of it without any very apparent reason: it is remarkable that LINNÆUS does not refer to this author either for his *elatior* or his variety of it. VAILLANT, as is evident from his references to RAY's two plants, considers the *elatior* and *pratensis* as the same, though LINNÆUS in his *Fl. Suec.* and *Spec. Plant.* confounds two plants in his references, and quotes indeed a figure in BARRELIER, which is neither *elatior* nor *pratensis*, but the *Festuca pinnata* Hudf. ed. 2. yet we suspect† from what he says of its place of growth, &c. for his specific description is a very inadequate one, that our *pratensis* is his *elatior*; his var. β of the *elatior* in the *Sp. Pl.* ed. 3. is clearly our *elatior*, but in the *Syst. Vegetab.* ed. 14. his last work, the *elatior* from a new reference to SCHEUCHZER is evidently made our *elatior*, and the variety is wholly lost sight of. Mr. HUDSON, in the first edition of his *Fl. Angl.* gave to this grass the name of *pratensis*, which, as the plant is chiefly found in meadows, is an extremely proper one, and as such we most readily adopt it: in the 2d edition of the same work, by some unaccountable mistake, for such it must be, he has been induced contrary to the opinion of all Botanists to consider it, together with the *loliacea* as varieties of the *Festuca fluitans*, asserting that they change to it when cultivated‡. We must observe that this is not only contrary to our experience in regard to culture, but that we have frequently, and this season particularly, observed the *pratensis* growing in several wet spots in Battersea meadows, close to the *fluitans*, and that both the grasses assumed their usual appearance; not to mention the different habits of these plants, the different form of their spiculæ, &c. the *fluitans* has a nectary differing widely from that of the *pratensis*, *elatior*, or *loliacea*, and which alone would remove any doubts, could such be really entertained on this subject.

The *pratensis* differs from the *elatior* in its usual place of growth; we have indeed found them growing close together; but betwixt Battersea and Vauxhall, where these plants grow abundantly, the *elatior* usually grows separately from the *pratensis*; and as we have before observed in the other grounds, where it has the advantage of moisture and some shade; the *pratensis* grows more dispersed in the open meadows, not forming such large tufts as the *elatior*, the *elatior* taking plants of equal strength and age, and which is to be understood through the whole of the subsequent comparison, is usually, nearly twice as high, and has foliage twice as broad, as that of the *pratensis*; the panicle in the *elatior* is not only much longer, but contains a far greater number of flowers, in the proportion of 64 to 128 taken from medium specimens; the panicle in the *pratensis* is usually once branched, in the other twice; in the *elatior* it droops greatly at first; in the *pratensis* but slightly; in the latter it leans to one side when in flower, and the flowers grow one way; in the *elatior* they grow more loosely, spreading more on all sides, but the spiculæ afford one of the most obvious distinctions; in the *pratensis* these are somewhat flat, linear, and obtuse; in the *elatior* more round, ovate, and pointed.

These two plants differ also about a fortnight or three weeks in their time of flowering.

Fig. 1. Spicula.

2. Glumæ Calycinæ.
- 3, 4. Glumæ Corollacæ.
5. Nectaria.
6. Stamina.
7. Pistillum.
8. Semen glumis inclusum.
9. Semen denudatum.

Fig. 1. One of the Spiculæ.

2. Glumes of the Calyx.
- 3, 4. ——— Corolla.
5. The Nectaries.
6. The Stamina.
7. The Pistillum.
8. The Seed enclosed within the Glumes.
9. The Seed taken out.

\* Vid. Practical observations on the British grasses best adapted for laying down or improving of meadows and pastures.

† Since the above was written we have had the satisfaction to learn from Mr. AFZELIUS, a Swedish Botanist of the first eminence now in London, who had the honour of being a pupil to LINNÆUS, and who meditates a new edition of the *Fl. Suec.* of that illustrious author, that the *pratensis* here figured is indisputably the *elatior* of the *Fl. Suec.* a name LINNÆUS had been induced to give it from its being the tallest festuca, he had then seen growing, for it appears that he was at that time a stranger to our *Festuca elatior*.

‡ α (*Festuc. fluitans*) sata in hortis mutatur in β (*loliacea*) et γ. (*pratensis*) primo anno in β secundo in γ. Hudf. *Fl. Angl.* ed. 2. p. 47.





*Festuca pratensis.*



8



*Festuca elatior*



# FESTUCA ELATIOR. TALL FESCUE GRASS.

FESTUCA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2 valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *elatior* panicula decomposita, primo nutante, florente suberecta, spiculis ovato-lanceolatis acutis muticis, foliis planis.

FESTUCA *elatior* panicula secunda erecta, spiculis subaristatis, exterioribus teretibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 118. Sp. Pl. p. 111. var. β. Schreb. Gram. t. 2. p. 34.

POA foliis latis asperis, locustis teretibus muticis, glumarum oris membranaceis. Hall. Hist. n. 1451.

FESTUCA *elatior* panicula secunda erecta ramosa, ramis binatis, spiculis ovatis subaristatis, foliis planis. Hudf. Fl. Angl. ed. 2. p. 47.

GRAMEN arundinaceum aquaticum panicula avenacea. Raii Syn. ed. 3. p. 411. 14.

GRAMEN paniculatum nemorosum latiore folio glabrum, panicula nutante, non aristata. Raii Syn. p. 411. 15.

GRAMEN arundinaceum locustis viridi spadiceis loliaceis, brevius aristatis. Scheuch. Agrost. p. 266.

GRAMEN loliaceum spica divisa pratense majus. Morif. Hist. Ox. 111. 184. t. 2. f. 15.

RADIX perennis, fibris numerosis, fuscis, ramosissimis, subvillosis.

CULMI bi-tripediales et ultra in pingui solo, erecti, teretes, glabri, nodosi, ad basin plerumque purpurei.

FOLIA inferiora pedalia, aut sesquipedalia, tres quaterve lineas, lata, sensim acuminata, superne et ad margines scabriuscula, striata, inferne carinata, nitidula, amplexicaulia, basi ipsa e flavo virescente; membrana brevissima truncata, caulina breviora; Vaginae striatae, laeves.

PANICULA spithamæa, aut pedalis, primo plerumque nutans, postea suberecta; Rami plerumque binati, inæquales, in ramulos plerumque subdivisi, ad basin tumidi; Rachis angulosus, flexuosus, scabriusculus, nitidus.

SPICULÆ ovato-lanceolatae, teretiusculæ, viridi et purpureo variegatae, suboctofloræ, nunc muticæ, fig. 2. nunc brevius aristatae, fig. 1.

CALYX: Gluma bivalvis, valvis inæqualibus, acuminatis, fig. 3.

COROLLA bivalvis, valvis subæqualibus acutis, exteriore majore, et paulo longiore, fig. 4. interiore sæpe bifida, fig. 5.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ lineares, flavæ, auct. fig. 6.

PISTILLUM: GERMEN obovatum, læve; STYLI duo, patentes, plumosi, fig. 7, 8.

NECTARIUM: Glumulae duæ, ad basin germinis, ovato-acuminatae, denticulo laterali acuminato plerumque instructæ, fig. 9.

ROOT perennial, furnished with numerous brown fibres, much branched, and slightly villous.

STALKS from two to three feet high, or more in a rich soil, upright, round, smooth, jointed, usually purple at the base.

LEAVES towards the root, a foot or a foot and a half long, and three or four lines broad, gradually tapering to a point, above and on the edges roughish, striated, on the under side keeled, a little glossy, embracing the stalk, the very base of a yellowish green colour; membrane very short and truncated, leaves of the stalk shorter; Sheaths striated and smooth.

PANICLE from a span to a foot in length, at first for the most part drooping, becoming afterwards nearly upright; Branches generally growing in pairs, unequal, for the most part subdivided into smaller ones, tumid at the base; Rachis angular, crooked, roughish, glossy.

SPICULÆ ovato-lanceolate, roundish, variegated with green and purple, containing about eight flowers, sometimes without, fig. 2. sometimes having short awns, fig. 1.

CALYX: a Glume of two valves, which are unequal and taper to a point, fig. 3.

COROLLA composed of two valves, the valves nearly equal, pointed, the outermost larger and a little longer than the other, fig. 4. the inner one often bifid, fig. 5.

STAMINA: three capillary FILAMENTS; ANTHERÆ linear and yellow, magnified, fig. 6.

PISTILLUM: GERMEN inversely ovate, smooth; STYLES two, spreading, feathery, fig. 7, 8.

NECTARY two small Glumes at the base of the germen, ovate with a long point, usually furnished on the side with a long slender tooth, fig. 9.

The three Grasses figured in the present number, differ so materially in their usual appearance when growing wild, that from the first we have been induced to consider them as distinct species; that we might however profit by the light which cultivation in numerous instances throws on species and varieties, we brought them into our garden, and after cultivating them many years in different soils and situations, find ourselves justified in the idea originally entertained.

The first of these, the *Festuca elatior*, is the least common of the three, and with us the most local, affecting and found chiefly in wet situations, as on the edges of the rivulets proceeding from the Thames, in the osier grounds adjoining it, and more rarely in moist meadows and woods: we have observed it this year 1791, in great plenty in an osier-ground adjoining the Thames, nearly opposite the physic-garden, Chelsea; RAY mentions it as having been found by Mr. DOODY, between London and Chelsea: it grows in large tufts, and is rendered conspicuous by the breadth of its leaves, the height of its stems, and the drooping of its panicle, at least before it flowers.

The student must be careful not to mistake it for the *Bromus hirsutus* and *giganteus* already figured in this work, and which have some affinity to it at least in point of size.

In open meadows, being in every respect smaller, it is not so distinguishable.

It flowers about the latter end of June and beginning of July.

We find it to be a hardy, perennial, and very productive grass, and that it will grow on moderately dry soils better than might be expected; we apprehend however that it is too harsh and coarse, either for hay or pasture: we recommend it nevertheless to the notice of the Agriculturist; it probably may prove a good grass for soils which cannot be drained of their too great moisture, or which are apt to be overflowed.

In very luxuriant spots the leaves will sometimes be found half an inch wide, as VAILLANT describes it; in general, size excepted, we discover very little variation in the habit or characters of this grass: in regard to *Arista*, indeed, it varies as most other grasses are observed to do.

We have found it for the most part beardless, some authors describe it with, others without an *Arista*, *vid. Synon.* Captain DORSET, who has bestowed great attention on the British Grasses, sent me a specimen this year, gathered near Woolwich, the flowers of which were all shortly bearded.

Unfortunately for the science,

On the awn there's no reliance.

We have frequently noticed it in those grasses, which, according to their character, should not have it, and wanting where it ought to have been; this summer in particular, I observed a plant of the *Avena elatior* without awns, the singularity of which prompted me to remove its root to my garden.

Our figure represents the *Festuca elatior* just coming into bloom.





*Festuca loliacea*



FESTUCA LOLIACEA. DARNEL FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA loliacea spicata, spiculis alternis sessilibus, compressis muticis. Hudf. Fl. Angl. ed. 1. p. 38.

POA locustis distichis, spicatis, muticis. Hall. Hist. n. 1452.

PHŒNIX longius spicata. Park. Theat. p. 1146. fig. to the left ?

From the various appearances which this plant assumes, it may be styled the very Proteus of Grasses; in its most usual form it bears a resemblance to the *Lolium perenne*, and hence it has been considered by some as a variety of that plant, and as such it is figured by MORISON; when branched, which it frequently is, it approaches near to, and has been taken for the *Festuca pratensis*, but it indisputably is a distinct plant from both.

With us it grows spontaneously, and plentifully in moist fertile meadows.

In root, stalk, leaves, and habit, it comes so near to the *Lolium perenne* as scarcely to be distinguished from it, but usually exceeds it in height by about one third; the flowers in general grow in a simple spike, from eight inches to a foot in length, bending a little towards the top; the spiculæ are sessile, nearly an inch long, diverging from and for the most part placed obliquely to the rachis, sometimes standing on foot-stalks of different lengths, the lowermost ones about an inch long, nearly round, flattened a little on the sides, running out to a point; the uppermost ones shorter and somewhat broader, containing from ten to fifteen flowers; the calyx usually consists of two valves unequal in size, the innermost frequently small, lateral, and sometimes wanting; the other parts of the fructification are very similar to those of the *pratensis* and *elatior*.

The flowers, as we before observed, usually grow in a simple spike: this spike not unfrequently occurs branched; then its appearance is greatly altered, and it approaches nearer to the *festuca pratensis*; but in that state it is distinguished from it by the length of its spiked panicle; most commonly the branches grow from the base of the spike, sometimes from the middle; in Battersea meadows, where this grass is found abundantly, I have observed a variety, in which the spiculæ were shorter than usual, and two or three of them grew together from the same point; but the grand difficulty which the student has to encounter in relation to this grass is, when he meets with that variety of it, which having shorter and broader spiculæ than usual, resembles *Lolium perenne* so much, as to make him ready to exclaim, "they are the same:" in this dilemma there are three characters, some one of which I have never yet known to fail: first, the situation of the spiculæ with respect to the rachis; the edge of these in the *Lolium* is always parallel with the rachis, which gives the spike a flat appearance; in the *loliacea* they are placed more or less obliquely: secondly, in the *Lolium perenne* there is never more than one valve to the calyx, which is a strong one, usually two thirds as long as the spicula; in the *Fest. lol.* there is for the most part two, though it often happens that the inner one is very small, imperfect, and sometimes wanting altogether: but it happens very rarely indeed that the inner valve is wanting in all the spiculæ of a spike from the same root; should this character fail, our dependance must be, thirdly, on the length of the outer valve of the calyx, which rarely is more than one third as long as the spicula.

We have dwelt thus minutely, tediously we fear some may think, on these circumstances, from a wish to remove all doubts respecting this plant, and save such as may honour the Flora Lond. with their perusal, from experiencing the difficulties and perplexities in which it has frequently involved us.

The *Festuca loliacea* comes into bloom about the same time as the *pratensis*, it is therefore not so early as some other grasses; we have found it from many years culture a hardy perennial of very quick growth, producing a larger but somewhat similar crop to ray grass, succeeding best in a moist soil; it is however rather harsh and stalky; those qualities excepted it would appear to be equal in goodness to some of the best of our pasture grasses, and as such we recommend it to the notice of the Agriculturist: there is one circumstance attends this grass which we must not omit to make known, as it highly concerns its culture, and affords a somewhat unusual instance of vegetable œconomy: the cultivated plant has produced me no perfect seeds, either at Lambeth-Marsh or Brompton; the same nearly may be said of the *elatior*, while the *pratensis* has constantly produced good seeds in abundance.

In the first edition of Mr. HUDSON'S Fl. Angl. we find this *Festuca* under the name of *loliacea*, a name highly proper, whether we consider it as referring to the *Lolium perenne*, which it so much resembles, or to the affinity it bears to the genus *Lolium*; for it certainly is the connecting link of the *Festuca* and *Lolium*; we have to regret, however, that the ingenious author should derogate from the merit of making it a species, by considering it in the second edition of the same work as a variety of the *Festuca fluitans*.

Partes Fructificationis.	Parts of Fructification.
Fig. 1. Spicula.	Fig. 1. One of the Spiculæ.
2. Glumæ calycinæ.	2. Glumes of the Calyx.
3, 4. — Corollacæ.	3, 4. — Corolla.
5. Nectaria.	5. The Nectaries.
6. Stamina.	6. The Stamina.
7. Pistillum.	7. The Pistillum.



# POA RETROFLEXA. REFLEXED MEADOW-GRASS.

POA Lin. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. Spicula ovata: valvulis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *retroflexa* panícula diffusa, ramis post florescentiam retroflexis, spiculis sublinearibus subquinquefloris.

POA *distans* panícula ramis subdivisis, floribus quinquefloris: flosculis distantibus obtusis. Lin. Syst. Vegetab. p. 115. ?

AIRA aquatica var B. Hudson Fl. Angl. ed. 2. p. 34.

RADIX perennis, fibrosa.

CULMI plures, spithamæi, pedales, aut sesquipedales, obliqui, foliosi, inferne subinfracti, teretes, læves.

FOLIA glauca, lævia, acuta, radicalia subconvoluta, caulina plana, erecto-patentia; Ligula brevis, obtusa, subtruncata, subinde bifida; Vagina lævis.

FLORES paniculati, panícula palmaris aut sesquipedalis, diffusa, ramis inæqualibus, ramosis, subflexuosis, tandem ad basin pertumidis et retro porrectis, inferioribus subquinis.

SPICULÆ sublineares, subquinquefloræ, nonnunquam penitus virides, at sæpius albo et purpureo pulchre variegatæ, fig. 1, 2, 3.

CALYX: Gluma bivalvis, valvulis ovatis, obtusis, concavis, inæqualibus, altero duplo brevior, fig. 4. auct.

COROLLA: bivalvis, valvulis subæqualibus, exteriore majore, concava, obtusiuscula, fig. 5, interiore plerumque bifida, ad lentem utrinque ciliata, fig. 6.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ parvæ, luteæ, fig. 7.

PISTILLUM: GERMEN obovatum, fig. 8; STYLI duo, patentes, ad basin usque ramosi, fig. 9.

NECTARIUM: Glumulæ duæ, ovato, acutæ, ad basin germinis, fig. 10.

Fig. 11 exhibet spiculam speciminis ficcati in qua flosculi remotiores et subtruncati.

ROOT perennial, and fibrous.

STALKS several, a span, a foot or a foot and a half in length, oblique, leafy, slightly elbowed below, round and smooth.

LEAVES glaucous, smooth, pointed, radical leaves somewhat rolled up, stalk-leaves flat, betwixt upright and spreading; Membrane short, obtuse, somewhat truncated, now and then bifid; Sheath smooth.

FLOWERS growing in a panicle, a hand's breadth or half a foot in length, spreading, the branches unequal, ramified, somewhat crooked, finally much swelled at the base, and stretched out backwards, the lowermost about five in number.

SPICULÆ somewhat linear, containing five flowers, more or less, sometimes entirely green, but more often prettily variegated with white and purple, fig. 1, 2, 3.

CALYX: a Glume of two valves, the valves ovate, obtuse, hollow, unequal, one of them not more than half the length of the other, fig. 4. magnified.

COROLLA: composed of two valves, the valves nearly equal, the outer one largest, concave, a little blunt, fig. 5, the inner one usually bifid, and, if magnified, edged on each side with hairs, fig. 6.

STAMINA: three capillary FILAMENTS; ANTHERÆ small and yellow, fig. 7.

PISTILLUM: GERMEN inversely ovate, fig. 8: STYLES two, spreading, branched down to the bottom, fig. 9.

NECTARY: composed of two small Glumes, ovate and pointed, at the base of the germen, fig. 10.

Fig. 11 exhibits the spicula of a dried specimen, in which the flowers are further apart, and appear somewhat truncated at top.

It is rather matter of admiration, that this Grass should have escaped the notice of Mr. RAY, since it is common in pastures and by road sides on all our sea-coasts, at least where we have travelled; like the *Plantago maritima* and some other plants, it is not confined to maritime situations; for, to my great astonishment, I found it, July 1786, among the grassy herbage on the right-hand side of the horse-road leading up the hill to Hampstead in tolerable plenty.

Though, at first sight, it bears a near resemblance to the *Poa annua*, and for which I have no doubt but it is often mistaken, a discerning eye will readily perceive a difference at a distance, and a close examination will discover abundant matter to confirm it.

As it usually grows, it is considerably taller than the *Poa annua*, its leaves are narrower in proportion, and much more glaucous, its spiculæ also are much narrower as well as longer, and, of course, contain many more florets; these are for the most part prettily variegated with pale green and purple; but the grand character which distinguishes it from the *Poa annua*, and, as far as we have observed from all the other Poas, is to be drawn from the branches of the panicle; these, as the plant goes out of bloom, are reflected or stretched out backwards, so as sometimes to touch the culmus or main stem. On examining into the cause of this, I found it was effected by little tubercles at the base of the branches on their upper sides only, which increasing in size as the plant advanced in its flowering, forced them backwards.

The peculiarity of this character induced us to adopt a name expressive of it, notwithstanding we had strong reasons to suppose our plant the *Poa distans* of LINNÆUS, a term expressing very distantly indeed any character of the plant.

Mr. HUDSON gives a particular description of this Grass, but considers it as a variety only of the *Aira aquatica*: what could induce him to form such an opinion, is difficult to say, we can assure our readers, that six years culture has made no alteration in the appearance of the *Poa retroflexa*.

There does not appear to be sufficient merit in this Grass to recommend it for agricultural purposes. It flowers from June to September.









*Poa praevalens*

*Stemaria del. Engelm. var.*



# POA PROCUMBENS. PROCUMBENT MEADOW-GRASS.

POA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis multiflorus. Spiculæ ovatæ, valvis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

POA procumbens culmis inflexo-procumbentibus, panicula secunda rigida; spiculis sublinearibus, subquinquefloris; flosculis obtusis basi pilosis.

RADIX perennis, fibrosa.

CULMI plures, palmares, semipedales et ultra, bi, trinodes, plerumque procumbentes, foliosi, læves, superne compressi.

FOLIA glauca, brevia, lineas duas lata, lineata, ad lentem punctis diaphanis subasperis confertis utrinque adspersa, margine minutissime serrulata; Ligula brevis, amplexicaulis, alba, acutiuscula; Vagina foliorum intus nitida, extus superficies eadem ut in foliis.

FLORES paniculati.

PANICULA subbiuncialis, rigida, subovata, deorsum subinde flexa, subsecunda, ramosa, ramis binatis inæqualibus, exteriore majore, spicula simplici in ramis inferioribus plerumque medio inter ramos posita, in speciminibus minus luxuriantibus spicula locum ramuli obtinet.

PEDUNCULI communes, teretes, nudi, flexuosi, substantia glandulosa ad basin superne notata.

RACHIS teres, lævis, interne bifurca.

SPICULÆ in ramis majoribus sex circiter, in minoribus quatuor, sessiles, subquinquefloræ, sublineares, compresso-teretiusculæ, æquidistantes.

FLOSCULI obtusi, ad basin pilosi.

CALYX: Gluma bivalvis, valvulis inæqualibus, viridibus, albo marginatis, obtusiusculis, fig. 1.

COROLLA: Gluma bivalvis, valvis subæqualibus, exteriore majore quinquenervi, interiore angustiore binerve, nervis ciliatis, fig. 2.

STAMINA: FILAMENTA tria capillaria; ANTHERÆ oblongæ, flavæ, fig. 3.

PISTILLUM: GERMEN obovatum, pallide virens; STYLI duo, patentes ad basin usque ramosi, fig. 5.

NECTARIUM: Glumule duæ, diaphanæ, basi tumidæ carnosæ, germine paulo longiores, fig. 4.

SEMEN oblongum, læve, glumis inclusum, fig. 6.

ROOT perennial, and fibrous.

STEMS many, from four to six inches or more in length, having two or three joints, for the most part procumbent, leafy, smooth, flattened towards the panicle.

LEAVES glaucous, short, two lines broad, scored, when viewed with a magnifier appearing to be thickly covered with roughish transparent dots, the edge very minutely sawed; Membrane short, embracing the stalk, white, somewhat pointed; Sheath of the leaves glossy on the inside, the surface on the outside the same as that of the leaves.

FLOWERS in a panicle.

PANICLE about two inches long, rigid, somewhat ovate, and now and then bent a little backwards, turning chiefly to one side, branched, the branches growing in pairs, unequal, the outer one largest, in the lower branches a single spicula is most commonly placed in the middle betwixt them, in impoverished specimens a spicula often holds the place of a branch.

PEDUNCLES: the common peduncles round, naked, crooked, marked at the base on the upper side with a glandular kind of substance.

RACHIS round, smooth, with two grooves on the inside.

SPICULÆ in the larger branches about six in number, in the smaller ones four, sessile, containing about five flowers, somewhat linear, roundish, slightly flattened, placed at equal distances from each other.

FLORETS obtuse, hairy at the base.

CALYX: a Glume of two valves, the valves unequal, green, edged with white, and somewhat blunt, fig. 1.

COROLLA: a Glume of two valves, the valves somewhat equal, the outer one largest and five-ribbed, the inner one narrowest and two-ribbed, the ribs edged with hairs, fig. 2.

STAMINA: three capillary FILAMENTS; ANTHERÆ oblong, and yellow, fig. 3.

PISTILLUM: GERMEN obovate, of a pale green colour; STYLES two, spreading and ramified quite to the base, fig. 5.

NECTARY: two small transparent Glumes, tumid and fleshy at the base, a little longer than the germen, fig. 4.

SEED oblong, smooth, enclosed in the glumes, fig. 6.

In the Autumn of 1793, having occasion to be at Bristol, I spent great part of a day in examining the plants of the famous St. Vincents Rock, adjoining Clifton-Wells; and at the foot of the rock, on the edge of the river Severn, I observed a tuft of grass, with a few panicles of ripe seed on it, assuming a different appearance to any grass I had been accustomed to see: I sought for more of it about the same spot, but without success; flattering myself that it might turn out to be a new species, I took up the only root there was, and gathered the seeds, planting the one, and sowing the other, in my garden at Brompton; the next season it flowered with me, and gave me an opportunity of discovering that it was a species of Poa, perfectly distinct from all our others.

In its general habit it comes near to *Poa annua*, it bears an affinity also to *Poa rigida*; but from both those, as well as from all our other Poa's, it is distinguished by many curious and interesting particulars.

One of the most striking characters of this grass is to have its stalks for the most part procumbent; but this procumbence, if we may be allowed the expression, does not appear to originate in the usual way, from the weakness of the stalk, but from its being bent downward at a joint near its base; as every stem is not thus acted on, some of them are frequently found nearly upright: the foliage of this plant is of a glaucous hue, and, if examined with a magnifier, is found to be covered with numerous rough particles of a silvery hue; the panicle has a greater degree of rigidity than that of *Poa annua*, the spiculæ are much longer, less flat, and more regularly distant from each other, and each floret is ciliated at its base; such are the most obvious differences; many others may be discovered from an attention to the description.

Not satisfied with having found a single specimen of this plant, we delayed publishing this account, hoping that it might be found more abundantly elsewhere; in the beginning of August an opportunity of making this discovery fortunately presented itself.

Sir THOMAS FRANKLAND, an early and warm encourager of the *Flora Londinensis*, which in many points has been improved by his friendly and judicious observations, sent me, from Clifton (where he then was on a visit) some seeds and specimens of plants gathered near that spot; I immediately wrote to him, and enclosing a specimen of my Poa, requested him to search for it; on the 7th of the same month I received a letter from him, containing specimens of the same grass, with the following desirable information: "I had fortunately noticed the grass you enclosed in your letter, which grows in some plenty in the inundated parts of the waste ground west of the wet dock, below Clifton; it seemed most like *Poa rigida*, its habit was new to me, and I supposed it a variety of that grass." In a letter afterwards, Sir THOMAS informs me, that he had found the same grass abundantly on the Pier at Scarborough; and we have lately been informed, that it has been found on the Essex Coast.

Culture produces little alteration in its appearance; it grows readily from seed, and flowers during most of the Summer: from the same root, which is clearly perennial, we have, as in *Poa annua*, young shoots and ripe seeds.



# AGROSTIS SETACEA. SHEEP'S FESCUE-LEAVED AGROSTIS.

AGROSTIS. *Linn. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis, 1-florus, corollā paulo minor. *Stigmata* longitudinaliter hispida.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AGROSTIS *setacea* foliis setaceis, culmo erecto.

AGROSTIS *canina* v. γ foliis setaceis rigidis glaucis, culmo erecto. *Huds. Fl. Angl. ed. 2. p. 31.*

AVENA *monantha*, paniculata, foliis setaceis, glumā calycina exasperata; arista flore duplo longiore. *Hall. Hist. n. 1478.*

GRAMEN parvum paniculatum alpinum panicula spadicea aristatum. *Scheuchz. Agrost. p. 140. 1. Prod. p. 22. t. iv.*

AGROSTIS *alpina*. *Diagn.* unum petalum truncatum aut bifidum; e basi promit aristam basi recurvatum. *Scop. Fl. Carn. ed. 2. p. 61.*

RADIX perennis, fibrosa.

FOLIA radicalia numerosa, fasciculata, glauca, rigida, setacea, teretiuscula, hinc sulcata, basi vaginis inclusa, ligula alba, erecta, instructa, caulina pauca, subulata, foliis radicalibus paulo latiora, erecta, sefunciam longa.

CULMI plures, spithamæi, pedales et ultra, suberecti, trinodes, scabriusculi, præsertim superne.

PANICULA bi-triuncialis, subcoarctata, tandem spiciformis.

CALYX: GLUMA bivalvis, valvis lanceolatis, acuminatis, subæqualibus, carina ad lentem scabriuscula, purpurascens, *fig. 1.*

COROLLA bivalvis, glumis calycinis brevior, valvula exteriore majore, longitudine fere calycis, nervosa, nervis duobus plerumque longioribus, hinc apice bifida, *fig. 2*; aristata, arista e basi valvulæ, et ejusdem fere longitudinis, primo recta, *fig. 3*; demum geniculata, valvula interior, minima, *fig. 4*; planiuscula, diaphana, vix germine longior, basi utrinque fasciculo minimo pilorum instructa, *fig. 5.*

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ bifurcæ, purpureæ, *fig. 7.*

PISTILLUM: GERMEN ovatum; STYLI duo, patententes, ad basin usque plumosi, *fig. 8.*

NECTARIUM: GLUMULÆ duo, lanceolatæ, acuminatæ, *fig. 6.*

ROOT perennial, and fibrous.

LEAVES, those next the root numerous, growing in bundles, glaucous, somewhat rigid, bristle-shaped, roundish, grooved on one side, at their base enclosed in sheaths, furnished with a white erect membrane, those of the stalk few, subulate, a little broader than the radical leaves, upright, an inch and a half in length.

STEMS several, from a span to a foot or more in length, nearly upright, having usually three knots, roughish, especially on the upper part.

PANICLE two or three inches long, somewhat closed, finally spike-like.

CALYX: a GLUME of two valves, the valves lanceolate, long-pointed, nearly equal, the keel rough when magnified, purplish, *fig. 1.*

COROLLA of two valves, shorter than the glumes of the calyx, the outer valve largest, nearly the length of the calyx, ribbed, two of the ribs usually longer than the rest, which gives to the tip a bifid appearance, *fig. 2*; awned, awn springing from near the base of the valve, and nearly of the same length, at first straight, *fig. 3*; finally jointed, the inner valve very minute, *fig. 4*; scarcely longer than the germen, furnished at its base on each side with a very minute tuft of hairs, *fig. 5.*

STAMINA: three FILAMENTS, capillary; ANTHERÆ purple, *fig. 7.*

PISTILLUM: GERMEN ovate; STYLES two, spreading, feathery quite to the base, *fig. 8.*

NECTARY: two minute GLUMES, lanceolate, long-pointed, *fig. 6.*

In the several catalogues of plants published by me at different periods, I have long since given to this very distinct species of *Agrostis* the name of *setacea*, or *Sheep's fescue-leaved*, the foliage being much finer than that of any other of our British species, and considerably resembling that of the Sheep's Fescue grass; regarding this name as more expressive than that of *alpina*, which was perhaps previously given it by SCOPOLI, I am not inclined to alter it, more especially as GMELIN has also an *alpina*, which, if we pay any regard to his figure of reference, is not our plant.

The first information I received of this grass was from my Gardener, ROBERT SQUIBB, who sent me up some tufts of it from Piddletown-Heath, Devonshire, where his relations lived; I have since found it to be one of the most common plants of that county, and Cornwall, there being scarcely a heath in either on which it does not abound; I have found it also plentifully on Bagshot-Heath, but not in the neighbourhood of London; Lord GAINSBOROUGH observed it near Lymington, Hampshire.

It flowers in July and ripens its seeds in August.

Readily as it grows in its wild state, I have not been able to keep it alive in my garden without planting it in bog earth, and bestowing unusual care on it.

The peculiarity of its place of growth, the fineness of its glaucous leaves, the closeness of its panicle, the length of its aristæ, so closely embraced is one of the valves of the calyx as to appear at first as if proceeding from it, which we have never observed to be wanting, joined to other characters noticed in the description, sufficiently point it out to the most common observer.

As an agricultural plant, it does not appear to have much to recommend it; where it abounds, it must constitute much of the sheep feed.





*Agrostis setacea*

*S. Edwards del. F. Sanfem sculp.*







# GALIUM VERUM. YELLOW LADIES-BEDSTRAW.

Linn. Gen. Pl. TETRANDRIA MONOGYNIA.  
Cor. monopetala, plana. Sem. duo, subrotunda.  
Raii Syn. Gen. 12. HERBÆ STELLATÆ.

GALIUM *verum* foliis octonis linearibus fulcatis, ramis floriferis brevibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 150. Sp. Pl. p. 155.  
GALIUM foliis linearibus, perangustis, octonis, racemis multifloris, spicatis. Hall. Hist. n. 710. Scop. Fl. Carn. n. 153.  
GALLIUM luteum. Baub. Pin. p. 335. Ger. emac. 1126. Park. 565. Raii Syn. p. 224. Yellow Ladies-Bedstraw, or Cheese-Rening. Hudf. Fl. Angl. ed. 2. p. 69.

RADIX	perennis, repens, tenuis, sublignosa, lutea.	ROOT	perennial, creeping, slender, somewhat woody, of a yellow colour.
CAULIS	pedalis, ad bipedalem, erectus, obsolete tetragonus, parum flexuosus, geniculatus, scaber, inferne minus superne magis pubescens, pallide viridis, versus summitatem ramosus; Genicula cylindracea, subovata, albida, margine tenui cincta; Rami brachiatim oppositi, alterni multo breviores, patulo-erecti, floriferi.	STALK	from one to two feet high, upright, slightly four-cornered, a little crooked, jointed, rough, below slightly, above more obviously pubescent, of a pale green colour, branched towards the top; the joints cylindrical, somewhat ovate, whitish, surrounded with a slight margin; Branches cross-ways opposite, the alternate ones much the shortest, betwixt upright and spreading, flower-bearing.
FOLIA	subpollicaria, margini genicularum inserta, sessilia, verticillata, reflexo-patula, linearia, obtusiuscula, submucronulata, basi attenuata, margine utrinque revoluta, aculeisque minutis oculo armato tantum conspicuis sursum aspero, supra rugosiuscula, obscure viridia, nitentia, subtus canaliculata, pallidiora, inferiora plerumque octona, non raro dena, superiora septena, sena, quina, quaterna, suprema terna, bina, et ad ultimos pedicellos singula.	LEAVES	about an inch in length, inserted into the edge of the joints; sessile, whorled, spreading and somewhat turned back, linear, bluntish, with a slight point, narrowed at the base, the edge on each side rolled back, and rough with minute prickles turned upwards, which are visible only with a magnifier, above slightly wrinkled, of a deep green colour, glossy, underneath hollowed, of a paler colour, the lowermost growing usually eight in a whorl, not unfrequently ten, the upper ones decreasing to 7, 6, 5, 4, 3, 2, and even 1 at the extremities of the branches.
FLORES	paniculati, numerosi, parvuli, flavi, peculiari odore fragrant.	FLOWERS	growing in a panicle, numerous, small, yellow, fragrant with a peculiar odour.
PANICULA	e ramis floriferis composita, spithamea, et ultra, interrupta, ramosa, ramis multifloris, inæqualibus, foliosis, foliolis pedicellorum solitariis.	PANICLE	composed of the flowering branches, about a span in length, interrupted, branched, branches many-flowered, unequal, leafy, the small leaves of the pedicles single.
CALYX	vix conspicuus, fig. 1.	CALYX	scarcely visible, fig. 1.
COROLLA	monopetala, rotata, patens, ungue nulla; laciniis quatuor, planis, subreflexis, distantibus, ovalibus, acutis, fig. 2.	COROLLA	monopetalous, wheel-shaped, spreading, without any claw, divided into four segments, which are flat, a little turned back, distant, oval, and pointed, fig. 2.
STAMINA	FILAMENTA 4, capillaria, erecta, corolla breviora; ANTHERÆ rotundatæ, flavæ, peracto officio fuscæ, fig. 3.	STAMINA	four capillary FILAMENTS, upright, shorter than the corolla; ANTHERÆ roundish, yellow, finally brownish, fig. 3.
PISTILLUM	GERMEN subrotundum, didymum, compressum, glabrum; STYLUS profunde bipartitus; STIGMATA capitata, fig. 4, 5, 6.	PISTILLUM	GERMEN nearly round, double, flattened, smooth; STYLE deeply divided into two; STIGMATA two little heads, fig. 4, 5, 6.
PERICARPIUM	BACCÆ duæ, siccæ, globosæ, coalitæ.	SEED-VESSEL	two, dry, globular
SEMINA	solitaria, subreniformia, rugosa.	BERRIES	united together.
		SEEDS	single, somewhat kidney-shaped and wrinkled.

Grows plentifully in the neighbourhood of London, in dry hilly pastures, and on the borders of fields, flowering in June, July, and August.  
We have seen the foliage of this plant, when all the surrounding herbage has been parched up, support the finest verdure; perhaps on this account it may be cultivated to advantage on such lawns as are apt in dry seasons to "disclose an arid hue."  
An ingenious gentleman conversant in dying, assured me that it was a plant highly deserving of culture, as an article in that business; for that the roots, though not so large as those of Madder, produced a brighter colour; and that the whole of the herbage dyed a good yellow, in which respect it had the advantage over Madder.  
The flowers of this plant have a moderately strong, not disagreeable smell, the leaves little or none: they both discover to the taste a sensible acidity, which they manifest also by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are said to be in some places commonly made use of in this last intention, whence one of the common names of the plant *Cheese rennet*. Their acid matter appears to be (if BORRICHIOUS's experiment is to be depended on) of a more subtle kind than that of Sorrel, and than the other native vegetable acids that have been examined; the flowery tops committed to the still as soon as gathered, giving over a pretty strong acid liquor in a moderate heat, wherein Sorrel yielded only an insipid phlegm. The restraining and refrigerating virtues ascribed to this plant appear from these experiments to have some foundation. *Lewis's Mat. Med. p.* When it diffuses a stronger odour than common, it denotes, according to LOESEL, rainy and tempestuous weather.  
This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea, hollow within, and covered with a purplish skin. WITHERING.





*Primula*  
*farinosa*



# PRIMULA FARINOSA. BIRD'S-EYE PRIMULA.

PRIMULA. *Linn. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Involucrum* umbellulæ. *Cor.* tubus cylindricus, ore patulo. *Capf.* 1-locularis, teres, dentibus 10-dehiscens, polysperma.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *farinosa* foliis crenatis glabris, florum limbo plano. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 192. *Sp. Pl. ed.* 3. *p.* 205. *Scop. Carn. ed.* 2. *p.* 133. *Hudf. Fl. Angl. ed.* 2. *p.* 84. *Lightfoot Scot. v.* 1. *p.* 137.

ARETIA foliis glabris, ellipticis, rugosis, subtus farinosis, floribus umbellatis. *Hall. Hist.* 625.

VERBASCULUM umbellatum alpinum minus. *Baub. Pin.* 247. *Raii Syn. ed.* 3. *p.* 285. Bird's-eye.

PRIMULA veris flore rubro et alb. Red and white Bird eine. *Ger. Herb.* 639. *f.* 1, 2. *emac.* 783. *f.* 1, 2.

PARALYSIS minor flore rubro et albo. *Park. Parad. p.* 246. *Pl.* 243. 10. *Theat. p.* 536. 1, 2.

RADIX perennis, subpræmorsa, fibrosissima, fibris longis, perpendicularibus; odorata.

FOLIA oblongo-obovata, crenata, glabra, crassiuscula, ad margines hinc inde reflexa, subtus farinosa, venosa.

SCAPUS palmaris ad spithamæum, erectus, teres, nudus, pallide virens, farinosus.

FLORES in umbella erecta, purpurei, suaveolentes.

INVOLUCRUM polyphyllum, foliolum  $\frac{1}{2}$  bractea subulata ad singulum pedunculum.

CALYX: PERIANTHIUM monophyllum, persistens, obovatum, pentagonum, quinquefidum, laciniis erectis, obtusiusculis, apice subconniventibus, obscure viridibus, farinosis, *fig.* 1, 2.

COROLLA: monopetala, tubulosa; TUBUS cylindraceus, calice longior, in medio coarctatus, terminatus collo subventricoso, lutescente, glabro, fauce pervia, lutea coronata; LIMBUS 5-partitus, patentissimus, *fig.* 3.

STAMINA: FILAMENTA quinque, brevissima, intra collum tubi corollæ; ANTHERÆ erectæ, oblongæ, subtrigonæ, conniventes, flavæ, *fig.* 4.

PISTILLUM: GERMEN superum, subglobosum, glabrum; STYLUS filiformis, longitudine tubi; STIGMA globosum, *fig.* 5.

PERICARPIUM: CAPSULA cylindræa, calyce duplo longior, fusca, unilocularis, ore quinquedentato, *fig.* 6.

SEMINA plurima, minima, fusca, *fig.* 7.

ROOT perennial, somewhat flumped, very fibrous, fibres long, perpendicular; sweet-scented.

LEAVES oblong-obovate, crenated, smooth, thickish, here and there turned back on the edges, mealy on the under side and veiny.

STALK a hand's breadth or span in height, upright, round, naked, of a pale green colour and mealy.

FLOWERS purple, sweet-scented, growing in an upright umbel.

INVOLUCRUM many-leav'd, each leaf or bractea awl-shaped and placed at the base of each peduncle.

CALYX: a PERIANTHIUM of one leaf, continuing, obovate, five-corner'd, divided into five segments, which are upright, a little blunt, closing together somewhat at their tips, of a dull green colour and mealy, *fig.* 1, 2.

COROLLA: monopetalous, tubular; TUBE cylindrical, longer than the calyx, contracted in the middle, terminating in a neck somewhat enlarged, yellowish, smooth, crowned with a mouth which is open and yellow; LIMB divided into five segments spreading very flat, *fig.* 3.

STAMINA: five FILAMENTS very short, within the neck of the tube of the corolla; ANTHERÆ upright, oblong, somewhat three-cornered, closing together and yellow, *fig.* 4.

PISTILLUM: GERMEN above, somewhat globular, smooth; STYLE filiform, the length of the tube; STIGMA globular, *fig.* 5.

SEED-VESSEL: a cylindrical CAPSULE, twice the length of the calyx, brown, of one cavity, the mouth five-toothed, *fig.* 6.

SEEDS numerous, very minute, and brown, *fig.* 7.

The species of Primula here figured, called *farinosa*, from the mealiness chiefly observable on the plant in the spring of the year, a native of the more northern parts of Europe, is found abundantly in certain districts of Yorkshire, and other northern counties of Great-Britain, chiefly in bogs and boggy meadows, in some of which it occurs in such profusion as to empurple them with its blossoms.

In its native soil, it flowers in July and August; in our more southern gardens, a month or six weeks earlier.

The flowers vary with different shades of purple, and they have been found entirely white; in point of size, the plant is also subject to much variation; in a bog in Skirritth-Wood, near Ingleton, we observed specimens of it a foot and a half high: in the cultivated plant, we have sometimes seen it have a tendency to be viviparous, to produce one or more tufts of leaves among the flowers of the umbel; in its wild state it seeds readily, and frequently when cultivated; towards the end of September its outer leaves fade, and the heart of the plant forms itself into a knob, or button, a kind of hybernaculum in which it remains during the winter; in the spring it expands, and the leaves then appear wholly white and mealy; the corolla continues to envelope the germen till it has almost arrived at maturity, forming a sort of calyptra to it; the capsule ultimately forms a mouth with five teeth, it should have ten to answer strictly to the character of a Primula.

In the neighbourhood of London cultivators seldom blow this plant in perfection, and rarely keep it for any length of time; and this justifies PARKINSON'S observation, who long since remarked, that it "would hardly abide any culture:" that it should suffer, as it commonly does, from a scanty supply of water in the summer, is not to be wondered at, but that it should be destroyed by too much wet in the winter, few would apprehend, *a priori*; such, however, is the fact, as I have too frequently experienced; one winter, indeed, I lost my whole stock from this cause, and renewed it by the kindness of my friend Mrs. CHORLEY, of Tottenham, niece of the late Dr. FOTHERGILL, who kept the few plants she had in pots, dry, by laying them on their sides, as is sometimes practised with Auriculas.

To attempt raising this plant from seed is scarcely worth the while, since a strong root of it may be divided so as to form a great number of others; the best time for doing this is in the spring, soon after its leaves have expanded; each offset should be placed in a separate pot, filled with two parts stiffish loam, and one part bog-earth of the light sandy kind, watered and set in the shade, under a north wall or paling, but not under trees, there they should be kept during summer in pans of water; in the autumn, as the wet season comes on, they should be taken out of the pans and placed, during the winter, under a common cucumber frame, chiefly for the purpose of keeping them from immoderate wet; the next year (if not the same) these plants will blow strong; and thus they should be treated every year, for Primulas in general require to have their roots frequently parted.





*Primula officinalis.*



# Veris - Willd. PRIMULA OFFICINALIS. The COWSLIP.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Involucrum umbellulæ. Corollæ tubus cylindricus, ore patulo.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *officinalis* foliis rugosis dentatis subtus hirsutis, scapo multifloro, floribus omnibus nutantibus, corollæ limbo brevi. Jacq. Misc. Austr. V. 1. p. 159. n. 3. Ait. Kew. V. 1. p. 193.

PRIMULA foliis rugosis dentatis hirsutis, scapis multifloris, floribus omnibus nutantibus. Hall. Hist. n. 610.

PRIMULA *officinalis* foliis rugoso dentatis, limbo corollarum concavo, tubi collo oblongo. Hoff. Germ. Fl. p. 67.

PRIMULA *officinalis*. Scop. Carn. ed. 2. n. 285.

PRIMULA *veris* foliis rugosis dentatis. Linn. Sp. Pl. 284. var.  $\alpha$  *officinalis* limbo corollarum concavo. Syst. Vegetab. ed. 14. Murr. p. 192. Hudf. Fl. Angl. p. 84. *veris*.

VERBASCULUM pratense odoratum. Baub. Pin. 241.

PRIMULA *veris* flavo flore elatior. Clus. Hist. 1. p. 301.

PRIMULA *veris* odorata flore luteo simplici. I. B. III. 495.

PARALYSIS vulgaris pratensis, flore flavo simplici odorato. Park. Parad. 244. The common field Cowslip.

PRIMULA *veris* major. Field Cowslips. Ger. Herb. p. 635. fig. 1. but fig. 2. more resembles the plant; emac. 780. f. 1. Threlk. Raii Syn. 284. Common Paigles, or Cowslips.

RADIX similis Primulæ acaulis, sed odore fortiori anisi prædita.

FOLIA subcordato-ovata, ad basin contracta, tunc decurrentia, structura foliis P. acaulis similia, sed dimidio fere breviora, margine pleniore, plicato-crenulato, validiora, obscurius viridia, basi non attenuata, subtus pilis mollioribus et brevioribus vestita; Petioli glabriores, albidi, vix rubentes.

FLORES parvi, nutantes, subsecundi, lutei, suaviter odorati.

SCAPI erecti, foliis 3plo aut 4plo longiores, pallidi, villosi, umbelliferi, multiflori.

STIPULÆ ad exortum umbellæ, pedunculos cingentes, parvæ, acuminatæ.

PEDUNCULI subunciales, villosi, pallidi.

CALYX: PERIANTHIUM monophyllum, subcampanulatum, ventricosum, laxum, pentagonum, villosum, quinquefidum, laciniis ovatis, acutis, fig. 1.

COROLLA monopetala: Tubus uti in Acauli, calyce paulo longius: Limbus vero brevissimus, concavus, flavus, maculis, quinque parvis, distinctis, aurantiacis, ad basin notatus. Faux simplex, absque corona, fig. 2, 3, 4.

STAMINA et Pistillum uti in Acauli, fig. 5, 6.

ROOT like that of the Primrose, but smelling more powerfully of aniseed.

LEAVES somewhat heartshaped-ovate, contracted at the base, then decurrent, in their structure like those of the Primrose, but shorter by nearly one half, fuller at the edge, which is somewhat folded as well as notched, stronger, of a deeper green, not running so taper at the base, covered on the under side with softer and shorter hair; the Leaf-stalks smoother, whitish, with scarcely any red in them.

FLOWERS small, hanging down, and generally to one side, yellow, and fragrant.

STALKS upright, 3 or 4 times longer than the leaves, pallid, villous, supporting many flowers in an umbel.

STIPULÆ at the base of the umbel, surrounding the peduncles, small and tapering to a point.

PEDUNCLES about an inch in length, villous, and pallid.

CALYX: a PERIANTHIUM of one leaf, somewhat bell-shaped, bellying out a little, fitting loosely about the tube of the Corolla, five-cornered, villous, divided into five ovate, pointed segments, fig. 1.

COROLLA monopetalous: Tube as in that of the Primrose, a little longer than the calyx: the Limb very short, concave, yellow, marked at the base with five small distinct orange-coloured spots, the Mouth simple, without any crown, fig. 2, 3, 4.

STAMINA and Pistillum as in the Primrose, fig. 5, 6.

In speaking of the Primrose, we had occasion to notice the place of growth, and time of flowering of the Cowslip; respecting the latter, we may add, that it is found in moist meadows, as well as upland pastures, and the borders of fields, and sometimes in that abundance as considerably to diminish their produce; hence, with all our partiality for this universal favourite, we hesitate not to pronounce it a plant noxious in agriculture; for, by the spreading of its leaves, it occupies much ground, while its produce is insignificant, and not relished by cattle, vid. Pan. Suec.

It retains its character when introduced into the garden, colour excepted, which it has a tendency to change, first to an orange brown, or tawny, and finally to a deep red; Mr. MOONE, who has long cultivated it, amidst a profusion of rare and valuable plants, in his garden, Hyde-Park, assures me, that it has constantly undergone this and no other change with him.

Both GERARD and PARKINSON, figure a variety of it with blossoms perfectly double, and which appears to have been common in our gardens when they wrote, though extremely scarce, if existing now; we possess a hose and hose variety with yellow, and another with deep scarlet blossoms, almost equal in beauty to those of the *Cyrilla pulchella*, and we have had one plant of the common Cowslip, which from the same root produced some flowers on peduncles, and others on a scapus.

The



The blossoms of the Cowslip, in its wild state, usually hang to one side; this appearance has in part been noticed even by Poets (who, in general, have not sufficiently attended to the works of Nature) thus THOMSON in his *Seasons*, *Spring*, line 443.

*Then seek the bank where flowering Elders crowd,  
Where scattered wild the Lily of the vale  
Its balmy essence breathes, where COWSLIPS HANG  
THE DEWY HEAD, where purple Violets lurk.*

And MILTON, in his *Lycidas*,

*Bring the rathe primrose that forsaken dies,  
The tufted crow-toe, and pale jessamine,  
The white pink, and the pansie freakt with jet,  
The glowing violet,  
The musk-rose, and the well-attired woodbine,  
WITH COWSLIPS WAN THAT HANG THE PENSIVE HEAD,  
And every flower that sad embroidery wears :  
Bid amaranthus all his beauty shed,  
And daffadillies fill their cups with tears,  
To strew the laureat hearse where Lycid lies.*

We have here quoted more than was barely necessary for our purpose, as it gives us an opportunity of justifying the remark above made; the glaring anachronism, if we may be allowed the expression, in the blowing of such plants, as Poets frequently bring together, has often appeared to us highly reprehensible, especially in those whose grand design has been to represent the appearances, the æconomy, and the wonders of Nature in elegant verse; every lad educated in the country knows that the Violet, the Cowslip, and the Elder, flower at very distant periods; it is therefore extraordinary that THOMSON, above all others, should group such plants, when innumerable others presented themselves: from MILTON such accuracy was not perhaps to be expected; we are not therefore, to be much surprised at his bringing together the *Primrose* and the *Jessamine*, the produce of spring and summer.

These remarks are not offered from a fondness for criticism, or from a desire of detracting from works which have afforded us such exquisite pleasure; nor are these selected as the only authors in which such anachronisms are to be met with, they abound in most poetry, and should, as much as possible, be avoided; for though they may not be noticed by the generality of readers, they must be regarded as blemishes at least by such as are accustomed to view the works of nature with any degree of accuracy.

We notice with more pleasure an instance, the reverse of what we have thought it our duty to censure; SHAKESPEAR has described the blossoms of the Cowslip with a degree of accuracy almost botanical, and has shewn how pleasing the most trifling appearances in natural history may be rendered by an imagination like his.

*The Cowslips tall, her pensioners be,  
In their gold coats spots you see,  
Those be rubies, fairy favours,  
In those freckles live their favours,  
I must go seek some dew drops here,  
And hang a pearl in every Cowslip's ear.*

The blossoms of this plant, in point of colour, are pleasingly and truly contrasted by MILTON:

*The YELLOW COWSLIP, and the PALE PRIMROSE.*

LINNÆUS gave to this plant, which he regarded as a mere variety of the Primrose, the name of *officinalis*, and which Professor JACQUIN, and many other respectable Botanists, considering it as a species, have continued; it being more frequently used in medicine than any other of the genus.

“Cowslip flowers have a moderately strong, pleasant smell, and a somewhat roughish, bitterish taste, both which they impart, together with a yellow tincture, to watery and to spirituous menstua. Vinous liquors impregnated with their flavour, by maceration, or fermentation, and strong infusions of them drank as tea, are supposed to be mildly corroborant, antispasmodic, and anodyne. An infusion of three pounds of the fresh flowers in five pints of boiling water, is made in the shops into a syrup of a fine yellow colour, and agreeably impregnated with the flavour of the Cowslips.” *Lewis M. Med. ed. Ark.*

Many good housewives in the country are in the practice of making a wine with Cowslip flowers, to be used rather as a medicine than an exhilarant; for a general opinion prevails, that they possess a somniferous quality; hence, POPE, in his imitations of *Horace's Satires*, says ludicrously,

*If the nights seem tedious—take a wife,  
Or rather, truly, if your point be rest,  
Lettuce and Cowslip wine—Probatum est.*

In the *Gentleman's Magazine*, Vol. 58. there are some pleasing lines on the Cowslip, by a gentleman of the name of HOMER, whose poetical effusions have often enriched that valuable Miscellany; with an extract from which we shall close our account of this plant.

Cowslip, of all belov'd, of all admir'd,  
Thee let me sing, the homely shepherd's pride;  
Fit emblem of the maid I love, a form  
Gladdening the sight of man; a sweet perfume,  
Sending its balmy fragrance to the soul.  
Daughter of Spring and messenger of May,  
Which shall I first declare, which most extol,  
Thy sovereign beauties, or thy sovereign use?  
With thee the rural dame a draught prepares,  
A nectarous draught, more luscious to my taste  
Than all thy boasted trash, vine-nurturing France.  
Maidens with thee their auburn tresses braid;  
Or, with the daisy and the primrose pale,  
Thy flowers entwining, weave a chaplet fair,  
To grace that pole round which the village train  
Lead on their dance to greet the jocund May;  
Jocund I'll call it, for it lends a smile  
To thee, who never smil'st but once a year;  
I name thee not, thou poor unpitied wretch!  
Of all despis'd\*, save him whose liberal heart

♦ Taught him to feel your wrongs, and plead your cause,  
♦ Departed HANWAY—Peace be to his soul!  
♦ Great is that man who quits the path of fame,  
♦ Who, wealth forsaking, stoops his towering mind  
♦ From learning's heights, and stretches out his arm  
♦ To raise from dust the meanest of his kind.  
♦ Now that the Muse to thee her debt has paid,  
♦ Friend of the poor and guardian of the wrong'd,  
♦ Back let her pleas'd return, to view those sports,  
♦ Whose rude simplicity has charms for me  
♦ Beyond the ball or midnight masquerade:  
♦ Oft on that merry morn I've join'd their throng,  
♦ A glad spectator; oft their uncouth dance  
♦ Ey'd most attentive; when, with tawdry shew,  
♦ Ill-sorted ribbons deck'd each maiden's cap,  
♦ And Cowslip-garlands every rustic hat:  
♦ Who that has eyes to see or heart to feel,  
♦ Would change this simple wreath which shepherds wear,  
♦ Ev'n for that golden circle which surrounds  
♦ The temples of a king?

\* The Chimney-Sweeper.









*Primula acaulis.*



*Vulgaris. With.*  
**PRIMULA ACAULIS. PRIMROSE.**

**PRIMULA.** *Linn. Gen. Pl.* **PENTANDRIA MONOGYNIA.**

*Involucr. Umbellulæ. Corollæ tubus cylindricus: ore patulo.*

*Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALÆ.*

**PRIMULA** *acaulis* foliis rugosis, dentatis, subtus hirsutis; scapis unifloris. *Jacq. Misc. Austr. p. 158.*

**PRIMULA** *vulgaris* foliis dentatis rugosis scapo subunifloro, limbo corollæ plano. *Hudf. Fl. Angl. ed. 2. p. 83.*

**PRIMULA** foliis dentatis rugosis pedunculis radicalibus unifloris, limbo corollarum plano. *Kram. Elench. p. 42.*

**PRIMULA** *veris* var  $\gamma$  *acaulis*, scapo nullo. *Linn. Sp. Pl. p. 204. Syst. Vegetab. ed. 14. Murr. p. 192. Fl. Suec. 171.*

**PRIMULA** *sylvestris.* *Scopoli Fl. Carn. n. 204.*

**PRIMULA** foliis hirsutis, rugosis, dentatis; scapis unifloris. *Haller Hist. n. 608.*

**VERBASCULUM** *fylvarum* majus singulari flore. *Baub. Pin. 241.*

**PRIMULA** *veris* pallido flore humilis. *Clus. Hist. p. 302.*

**PRIMULA** *veris* minor. *Ger. Herb. 636.*

**PRIMULA** *veris* vulgaris. *Park. Tb. p. 535. Raii Syn. p. 284. Common Primrose.*

**RADIX** perennis, obliqua, præmorfa, squamis crassis rubentibus a foliis præteritis relictis obtecta; emittens fibras copiosas, prælongas, teretes, alidas. Odor singularis fere anisi.

**CAULIS** nullus.

**FOLIA** subpalmaria, erectiuscula, oblongo-ovata, basi attenuata, obtusa, venosa, rugosa, supra lævia, subtus hirsuta, margine parum revoluta, leviter undulata, inæqualiter crenata; costa albida, in petiolum canaliculatum carinatum rubentem definente.

**STIPULÆ** subunciales, acuminatæ, ad basin pedunculorum.

**FLORES** erecti, numerosi, pallide sulphurei, majusculi, suaveolentes.

**PEDUNCULI** erecti, foliis paulo breviores, uniflori, teretes, hirsuti, pallide virentes, ex ipsa radice progredientes, post florescentiam deflecti.

**CALYX**: **PERIANTHIUM** 1-phyllum, persistens, oblongum, tubulosum, plicato-pentagonum, pilosum, 5-dentatum, dentibus acuminatis, apice inflexis, *fig. 1.*

**COROLLA** monopetala, tubulosa; *tubus* cylindricus, calyce longior, striatus, nitidus, *limbus* quinquepartitus, patens, laciniis obcordatis, emarginatis, basi macula stellæformi flava notatis; faux obsolete coronata, *fig. 2.*

**STAMINA**: **FILAMENTA** 5, brevissima, intra tubum corollæ, *fig. 4.* aut ad faucem ejus posita, *fig. 3.* **ANTHERÆ** erectæ, oblongæ, flavæ, subtrigonæ, *fig. 5.* conniventes.

**PISTILLUM**: **GERMEN** superum, subglobosum, glabrum, *fig. 6.* **STYLUS** filiformis, tubo plerumque brevior, *fig. 7.* **STIGMA** globosum, *fig. 8.*

**ROOT** perennial, oblique, flumped at the extremity, beset with thick reddish scales, the remains of the past leaves, sending down numerous, very long, round, whitish fibres; its smell singular, somewhat like that of anise.

**STALK** none.

**LEAVES** about a hand's breath in length, nearly upright, oblong-ovate, tapering to the base, blunt, veiny, wrinkled, smooth above, hirsute beneath, the edge slightly rolled back, slightly waved, unequally notched, the midrib whitish, terminating in a footstalk of a reddish colour, hollow on one side, and keeled on the other.

**STIPULÆ** about an inch in length, long-pointed, at the base of the flower-stalks.

**FLOWERS** upright, numerous, of a pale sulphur colour, rather large and sweet-scented.

**FLOWER-STALKS** upright, a little shorter than the leaves, one-flowered, round, hirsute, of a pale green colour, proceeding from the root itself, after the flowering is over, bending back.

**CALYX**: a **PERIANTHIUM** of one leaf, permanent, oblong, tubular, folded, and forming five angles, hairy, 5-toothed, teeth long-pointed, bending in at the tip, *fig. 1.*

**COROLLA** monopetalous, tubular; the *tube* cylindrical, longer than the calyx, striated, and glossy; *limb* quinquepartite, spreading, the segments obcordate, emarginate, marked at the base with a star-shaped yellow spot, the mouth marked with a faint rim, *fig. 2.*

**STAMINA**: five **FILAMENTS**, very short, placed either within the tube of the corolla, *fig. 4.* or at its mouth, *fig. 3.* **ANTHERÆ** upright, oblong, yellow, somewhat three-corner'd, *fig. 5.* closing together.

**PISTILLUM**: **GERMEN** above the base of the calyx, nearly globular, smooth, *fig. 6.* **STYLE** filiform, usually shorter than the tube, *fig. 7.* **STIGMA** round, *fig. 8.*

*Primula veris* appears to have been a kind of general, or generic name given by many of the ancient Botanists to the *Primrose*, *Cowslip*, and *Oxlip*; yet is most applicable to the *Primrose*, as a flower of the spring; they regarded these plants as so many distinct species, and such they were in general considered till LINNÆUS ventured to maintain a contrary opinion, an opinion which comparatively speaking, few of his followers have acquiesced in: partial as we are to the transcendent merits of that great man, we cannot agree with him in this instance, without destroying, as we apprehend, all limits of specific distinction.

The most striking character of the *Primrose* consists in its mode of flowering, each blossom growing on a single peduncle, which springs from the root; LINNÆUS asserts that the peduncles spring from a scapus, as in the *Cowslip*, though it be so short as not to appear above ground, and from this circumstance principally, he maintains that the *Primrose* is only a variety; or, in other words, that the *Primrose*, the *Cowslip*, and the *Oxlip* are one and the same species.

We will not deny the existence of such a stalk as LINNÆUS describes; in examining a vast number of these plants, we have found it in a few, but it certainly is not general in the wild plant; we are ready, however, to admit more than the existence of this short scapus; the plant when cultivated will sometimes throw up a stalk similar to that of the *Polyanthus*, and of this my very good friend Dr. BUXTON, of Greenwich, has favoured me with a striking instance; *Primroses* in their wild state introduced to his Garden at Maize-Hill, a few years since, now produce flowers, both with and without a scapus, are indeed become, colour excepted, perfect *Polyanthuses*; in my own garden the white hose in hose *Primrose* produces early in the spring, flowers on peduncles, and afterwards flowers on a scapus, or, to speak in the language of the florist, flowers in a truss, but still they have the foliage and the flowers of the true *Primrose*; the *Cowslip* and the *Oxlip*, on the contrary, sometimes produce flowers on peduncles, as well as on a scapus, of which I now have also instances in my garden; but



but what do all these prove? why that the *Primula*, like most other plants, is subject to the sportings of nature, and which are no more to be regarded than the uncommon colours of a flower; the root or the stalk of a plant may be equally subject to vary as the blossom, and those who cultivate plants see frequent instances of it: I once had a daisy which became caulescent, that is, its peduncle became a stalk which threw out many peduncles bearing flowers, the terminal one of which was proliferous, but no one from such an uncommon instance would infer that the *acaulis* character of the daisy was invalidated; it is just so in my humble opinion with regard to the Primrose, in general the peduncles spring singly from the root, and in forming its specific character we must be guided by their usual and genuine appearance.

Besides the striking character drawn from the inflorescence, a very material difference is observable in other parts of the plant, betwixt it and the Cowslip at least; to say nothing of the leaves, which have been noticed by RAY in a contrasted point of view, *vid. Syn. ed. 3. p. 283.* how different is the corolla in size and shape, and how very different is the calyx?

In their natural place of growth, and time of flowering, we observe a very material difference betwixt these two plants; the Primrose loves shelter, and the light umbrage of deciduous trees, through the leafless sprays of which it may enjoy the vernal sun, and when its flowering is over, be shaded from its too potent rays by the expanding foliage; hence we find it most commonly in woods, copses, hedge-rows, at the foot of hedges, and in sheltered lanes, where it is one of the first of our plants which awakens to the genial warmth of the sun, and welcomes the returning year; if the season be mild it will flower from March to May, its highest state of bloom is with that of the *Wood Anemone*; it is also much disposed to flower in the autumn, and even during winter if the weather be not severe: the Cowslip very rarely manifests a disposition of this sort, contented once to shew its freckled bloom; instead of woods and their attendant shade, this must be sought for in open pastures, and meadows, where it courts that degree of sun which would prove fatal to the Primrose, it flowers in May with the *early spotted Orchis*. (*Orchis mascula*).

The usual colour of the Primrose blossom is pale sulphur, in some parts of the kingdom they are said to be found wild of a purple hue; to enumerate all the varieties which have sprung from accident, or culture, would afford little entertainment or instruction; suffice it to say that many of them are very ornamental, and highly deserving of our care; the following are the most striking varieties which I have yet had it in my power to cultivate, the *SINGLE white flowered*, the *paper white*, which Mr. MILLER says, without assigning any reason, is certainly a distinct species, the *red or purple* of various shades, the *hose in hose*; the *DOUBLE yellow*, the *deep velvet red*, the *pale red*, or *flesh-coloured*; the *white* and the *dingy purple*, called by some the Scotch Primrose; all these are charming ornaments for the shrubbery, the six last are plants of some value, and duplicates of them should be kept in pots, which during summer must be placed in some shady situation; in the spring the shelter of a green-house will bring them forward, and make them flower to advantage, and as they blossom very early, they will tend to enliven a collection of more rare and valuable plants.

That curious variety called by GERARD and PARKINSON *Master HESKETH'S Primrose*, we have not met with in the collections about London; we hope it may yet remain in some part of the kingdom, as it appears deserving of culture from its great singularity; it is said by PARKINSON to bear not only single flowers upon several stalks, but sometimes two or three single flowers upon one stalk, and also at the same time a bigger stalk, and somewhat higher, having one green huske at the toppe thereof, sometimes broken on the one side, and sometimes whole, in the middle whereof standeth sometimes divers single flowers thrust together, *vide* its fig. in his *Parad. terr.* The following is GERARD'S account of it, "There is a strange Primrose founde growing wilde, in Clapdale-Wood, near Settle, in Yorkshire, by the travel, and industry of a learned gentleman of Lancashire, called master THOMAS HESKETH, and a diligent searcher of Simples, who hath not only brought to light this amiable and pleasant kind of Primrose, but many others likewise, never before his time remembred, or founde out. This kinde of Primrose hath leaves, and rootes like the wilde fiede Primrose, in eche respect, it bringeth forth among the leaves a naked stalke of a greyish or overworne greenish colour, at the top whereof doth growe in the winter time one flower, and no more, like unto that single one of the fiede; but in the summer time it bringeth foorth a soft ruffet huske or hose, wherein are contained many smal flowers, sometimes fower or five and oftentimes more, very thicke thrust together, which maketh one entire flower, seeming to be one of the common double Primroses, whereas indeed it is one double flower made of a number of smal single flowers, never ceasing to beare flowers winter nor summer as before is specified."

While we are thus describing the varieties to which this plant is subject, it may not be amiss to observe that the stamina also vary greatly in their situation, being sometimes found low down in the tube of the blossom, sometimes at its mouth, in the former instance the Pistillum which varies also in length shews its round stigma, and with its attendant style looks like a pin stuck in the centre of the flower; such flowers in the Polyanthus are termed pin-eyed, while those in which the antheræ close the mouth of the tube, are called thrum-eyed, and this latter appearance in the opinion of the florist is an essential requisite in a good flower.

The contemplative mind feels a complacency in surveying the improvements which Providence permits to take place, in that part of the animal and vegetable world which mankind have brought under their care and protection, many instances of these might be adduced from the more useful and necessary productions, but it is not those only that amend under our care, we are permitted also to gratify our sight with the endless varieties that flowers put on, when cultivated by the curious; nor in any one instance does

"The exulting Florist mark  
"with secret pride the wanders of his hand"

more than in the boundless luxuriance that Polyanthuses assume, their parent the Primrose being a native, they face the severity of the winds of March much more boldly than any foreign plants, natives of warmer climates.

LINNÆUS indeed cautions Botanists against being seduced by the gaudy tints, that fascinate the mere florist, but surely we may safely admire, without fixing our attention wholly on the flower-bed.

The Primrose comes in for a share also of medicinal fame.

The leaves and the root of Primrose seem to partake in some degree of the nature of those of *Asarum*, acting as strong errhines, or sternutatories, when snuffed up the nose, and as emetics (the roots at least) when taken inwardly; GERARD reports as from the experience of a skilful practitioner, that a drachm and a half of the powder of the dried roots taken up in autumn purgeth by vomit very forcibly, but safely, in such manner as *Asarum* doth. *Lewis M. M.*

The root affords a good example of the *radix dentata*, the tubercles forming the teeth, arise as in most roots of the kind from the remains of the base of the leaf, and hence from their number some idea may be formed of the age of the plant.









*Datura stramonium.*



# DATURA STRAMONIUM. THORN-APPLE.

DATURA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Cor.* infundibuliformis, plicata. *Cal.* tubulosus, angulatus, deciduus. *Caps.* 4-valvis.

*Raii Syn. Gen.* 16. HERBÆ BACCIFERÆ.

DATURA *Stramonium* pericarpis spinosis erectis ovatis, foliis ovatis glabris. *Lin. Syst. Vegetab.* p. 220. *Sp. Pl.* p. 255. *Fl. Suec.* n. 198.

STRAMONIUM foliis angulosis, fructu erecto, muricato, calyce pentagono. *Haller Hist.* n. 586.

STRAMONIUM *fœtidum.* *Scopoli Fl. Carniol.* n. 152.

SOLANUM fœtidum pomo spinoso oblongo, flore albo. *Baub. Pin.* 164.

STRAMONIUM spinosum. *Ger. emac.* 349.

SOLANUM pomo spinoso, oblongo, flore calathoides Stramonium vulgo dictum. *Raii Syn.* 266. *Hudson Fl. Angl. ed. 2.* p. 92.

RADIX annua, ramosa, albida.

CAULIS variæ altitudinis pro ratione foli, pedalis, ad sepedalem, teres, glaber, late diffusus, ramosus, ramis dichotomis, minutim pubescentibus.

FOLIA e dichotomia caulis et ramorum, solitaria, vix spithamea, petiolata, ovata, acuta, utrinque glabra, superne saturate viridia, inferne et ad margines pallidiora, nervis robustis, subalternis, margine undique inæqualiter sinuato-dentata, uno latere per petiolum longius extenso.

PETIOLI teretes, pubescentes, foliis breviores, superne obsolete canaliculati.

FLORES solitarii, e dichotomia caulis, una cum foliis egredientia, breviter pedunculati, erecti.

CALYX: PERIANTHIUM monophyllum, oblongum, tubulatum, ventricosum, dilute viridescens, quinquangulare, quinque-dentatum, deciduum horizontaliter prope basin, parte remanente, orbiculata, persistente.

COROLLA monopetala, infundibuliformis, nivea; *Tube* viridescens, pentagonus, calyce brevior; *Limbus* basi nervosus, erecto-patulus, quinquangularis, quinqueplicatus, quinque-dentato-acuminatus, *fig.* 1.

STAMINA: FILAMENTA quinque, subulata, inferne tubo corollæ adnata, superne libera; ANTHERÆ ovali-lineares, erectæ, infidentes, e fusco-lutescentes, *fig.* 2.

NECTARIUM: Glandula crenata, annularis, ad basin germinis, *fig.* 3.

PISTILLUM: GERMEN superum, subconicum, undique hispidum; STYLUS filiformis, albus, superne paulo crassior, longitudine staminum. STIGMA crassiusculum, obtusum, bilamel-latum, *fig.* 4, 5, 6.

PERICARPIUM: CAPSULA spinosa, subovata, bilocularis, quadrivalvis, basi calycis imposita, *fig.* 7.

SEMINA numerosa, subreniformia, nigricantia.

ROOT annual, branched, whitish.

STALK various in its height, according to the soil in which it grows, rising from one to six feet, round, smooth, spreading widely, branched, branches forking, and covered with a fine down.

LEAVES springing from the forking of the stalk and branches, single, scarcely six inches long, standing on footstalks, ovate, pointed, smooth on both sides, above of a deep green colour, beneath and on the edges paler, ribs strong, somewhat alternate, the edge through its whole extent unequally sinuated and toothed, extending farther down the footstalk on one side than on the other.

LEAF-STALKS round, downy, shorter than the leaves, above faintly channelled.

FLOWERS single, proceeding together with the leaves from the forking of the stalk, standing on short footstalks and upright.

CALYX: a PERIANTHIUM of one leaf, oblong, tubular, bellying out, of a pale green colour, having five angles and five teeth, separating horizontally near the base, the remaining part orbicular and permanent.

COROLLA monopetalous, funnel-shaped, white; *Tube* greenish, five-cornered, shorter than the calyx; *Limb* ribb'd at the base, upright and spreading, five-cornered, with five plaits and five long pointed teeth, *fig.* 1.

STAMINA: five FILAMENTS, tapering, below attached to the tube of the corolla, above loose; ANTHERÆ betwixt oval and linear, upright, sitting, of a brownish yellow colour, *fig.* 2.

NECTARY: a circular notched Gland at the base of the germen, *fig.* 3.

PISTILLUM: GERMEN above the calyx, somewhat conical, hispid; STYLE filiform, white, thickened a little above, the length of the stamina. STIGMA thickish, obtuse, and composed of two lamellæ, *fig.* 4, 5, 6.

SEED-VESSEL: a CAPSULE, thorny, subovate, of two cavities, and four valves, placed on the base of the calyx, *fig.* 7.

SEEDS numerous, somewhat kidney-shaped and blackish.

The Thorn-apple is found occasionally in the environs of London, on dunghills, in cultivated ground, and amongst rubbish; both Mr. RAY and Mr. HUDSON place it amongst the British plants, regarding it at the same time as a doubtful native; following their example, we have figured it in the *Flora Londinensis*, induced thereto from the additional consideration of its being a poisonous plant, and, as such, necessary to be known to our readers.

That it is a native of America, we have the most indubitable proofs: in the earth brought with plants from various parts of that extensive country, we are sure to have the Thorn-apple come up, which we shall not wonder at, after perusing the following extract from KALM's Travels into North-America. "The *Datura* *Stramonium* grows in great quantities in all the villages; its height is different according to the soil it is in: for, in a rich soil, it grows eight or ten feet high; but, in hard and poor ground, it will seldom come up to six inches. This *Datura*, together with the *Phytolacca*, or American Nightshade, grow here in those places near the gardens, houses, and roads, which in Sweden are covered with Nettles and Goosefoot, which European plants are very scarce in America; but the *Datura* and *Phytolacca* are the worst weeds here, nobody knowing any particular use of them."

There



There is great reason to suppose, that it is also a native of some parts of Europe and Asia.

Authors universally agree in attributing poisonous qualities to the Thorn-apple.—BERGIUS, a modern writer on the *Materia Medica*, relates, that the narcotic effluvia of the fresh plant affected him so powerfully as he was describing it, that with the smell, and chewing a bit of the plant, he became slightly intoxicated, as if unaccustomed to tobacco he had inhaled its fumes.

A decoction of the herb, seed-vessels, or seeds, have been found to produce different effects in different constitutions; but the symptoms most commonly attendant on taking this plant, are light-headedness, profound sleep, insanity, madness, convulsions, palsy of the limbs, cold sweats, vehement thirst, and tremblings.

HALLER mentions a case in which taking of the seeds proved fatal; they had been administered for those of *Nigella*.

The Chinese are forbid by law from putting it into fermented liquors, with a view to intoxicate.

As the most active poisons, in proper doses skilfully administered, frequently prove efficacious in removing obstinate diseases; so this, as well as several others, has been recommended for such purpose. Dr. STORK, of Vienna, first proposed it as a remedy for those very diseases it is capable of exciting.

An extract made from the expressed juice of the leaves, is acrid and saline to the taste, and yields crystals of nitre on standing. This preparation, given in doses of from one to five grains, twice or thrice a day, is said to be a very powerful remedy in various convulsive and spasmodic diseases, epilepsy, and mania. The accounts of other practitioners have confirmed that of the first introducer, and it has been received into some pharmacopœias. An ointment prepared from the leaves, has been found to give ease in external inflammations and hemorrhages.

Emetics and purgatives give the speediest relief in cases where the plant has been inadvertently eaten, which it is sometimes necessary frequently to repeat, as some of the seeds have been found to lodge a considerable time in the stomach.







# PULMONARIA MARITIMA. SEA LUNGWORT.

PULMONARIA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Cor. infundibuliformis fauce pervia. Cal. prismatico 5-gonus.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

PULMONARIA *maritima* calycibus abbreviatis, foliis ovatis caule ramoso procumbente. Linn. Syst. Vegetab. ed. 14. Murr. p. 187. Sp. Pl. ed. 3. p. 195. Hudf. Fl. Angl. ed. 2. p. 81. Lightf. Scot. v. 1. p. 134. t. 7. Fl. Dan. t. 25.

CERINTHE *maritima* procumbens. Dill. Herb. Elth. t. 65.

CYNOGLOSSUM procumbens glaucophyllum maritimum nostras, floribus purpureo cæruleis, feminibus lævibus. Pluk. Alm. p. 126. t. 172. f. 3.

CYNOGLOSSUM perenne maritimum procumbens. Moris. Hist. 3. p. 450. f. 11. t. 28. f. 12.

ECHIUM marinum. P. B. Cat. Ang. Sibb. Sc. Ill. P. II. L. 3. p. 55. Tab. 12. Raii Syn. Ed. 3. p. 228. Sea Bugloss.

BUGLOSSUM dulce ex Insulis Lancastriæ. Lancashire Bugloss. Park. Th. p. 767. t. 766. f. 5.

RADIX perennis, lignosa, nigricans.  
CAULES plures, procumbentes, pedales et ultra, teretiusculi, foliosi, superne ramosi.  
FOLIA numerosa, sparsa, sessilia, obovata, acuta, basi angustata, integerrima, subtus nervosa, undulata, apicibus sæpius recurvis, superne punctis prominulis exasperata.  
PEDUNCULI teretes, ad flores subincrassati, verruculosi.  
CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, acutis, integerrimis, carinatis, fig. 1.  
COROLLA monopetala, infundibuliformis, infra medium coarctata, quasi vincula ligata fuisset; Tubus brevis, latus, longitudine calycis; Limbus quinquefidus laciniis reflexis, fauce pervia, gibbis quinque intrusis lutescentibus, fig. 2.  
STAMINA: FILAMENTA quinque, fundo corollæ inserta, subulata, convergentia, tubo corollæ paulo longiora; ANTHERÆ oblongæ, luteæ, incumbentes, fig. 3.  
PISTILLUM: GERMINA quatuor; STYLUS filiformis, longitudine staminum; STIGMA simplex, fig. 4.  
PERICARPIUM nullum.  
SEMINA quatuor, conniventia, trigona, acuta, lateri exteriori convexa, interioribus planis, fig. 5.

ROOT perennial, woody, of a blackish colour.  
STALKS numerous, procumbent, a foot or more in length, nearly round, leafy, branched above.  
LEAVES numerous, placed without order, sessile, obovate, pointed, narrowed at the base, perfectly entire, ribbed on the under side, waved, the point most commonly bent back, the upper surface rough with fine prominent points.  
PEDUNCLES round, a little thickened next the flowers, and somewhat warty.  
CALYX: a PERIANTHIUM of five leaves, continuing, leaves ovate, pointed, perfectly entire, and keeled, fig. 1.  
COROLLA monopetalous, funnel-shaped, contracted below the middle, as if it had been tied round with a ligature; Tube short, wide, the length of the calyx; Brim divided into five segments, which are bent back, the throat open, with five yellowish tubercles, fig. 2.  
STAMINA: five FILAMENTS, inserted into the bottom of the corolla, converging, a little longer than the tube of the corolla; ANTHERÆ oblong, yellow, incumbent, fig. 3.  
PISTILLUM: GERMINA four; STYLE filiform, the length of the stamina; STIGMA simple, fig. 4.  
SEED-VESSEL none.  
SEEDS four, closing together, three-cornered, pointed, the outer side convex, the two innermost flat, fig. 5.

The *Pulmonaria maritima* is found abundantly on many parts of our sea-coasts, yet not generally; like the *Crambe maritima*, it has its local attachments\*.

Its roots, which are perennial, strike deeply into the sand, or among the pebbles, and it is probable that by this means the plant may be preserved in very severe seasons; Mr. LIGHTFOOT regards it as one of the most beautiful of our British plants, such it undoubtedly is, and on that account highly deserving of culture; yet we rarely find it in the gardens of the curious, and this we attribute to its culture not being well understood; we have taken much pains to have this plant in perfection, and, having succeeded, recommend the following mode.

If your plant has been taken proper care of, it will produce abundance of seeds, most of which will be ripe by the end of August; gather them as they ripen, for if you stay till those from the last-blown flowers are fit, those from the first will have fallen out of the flower-cups; sow them either early in September or the ensuing February, in a pot of earth composed of three parts sea sand (or, in lieu thereof, common sand) and one part rotten cow dung, finely sifted; in about six weeks or two months from the February sowing these seeds will vegetate, and in the Autumn the plants will be fit to transplant into separate pots, and most of them will flower the ensuing year; snails and slugs are uncommonly fond of this plant; if you, therefore, plant it in the open border, it will in all probability be destroyed; for these animals not only devour the plant when fully green, but eat out the buds on their first appearance; so that you lose your plants without knowing the cause: having them in pots, you can guard them better from their ravages; set them with your green-house plants, and treat them as such, they will not disgrace your collection; water them over the leaves as little as may be, for the water is apt to settle on them in drops, and to leave marks which greatly disfigure them.

RAY refers to PARKINSON'S figure of this plant with a query; though a very rude one, it is undoubtedly intended for it; of the several figures published since, that of DILLENIIUS is certainly the best, though deficient in expressing its habit.

From the appearance of the foliage, one would not be induced to place it with the *asperifoliæ*; a magnifying glass, however, shews on many parts of it a manifest roughness; much less would we suspect that poison lurked under such an elegant form, yet the respectable testimony of Dr. BLAIR fully confirms it; the following account is taken from his *Miscellaneous Observations*, p. 55.—“ I am credibly informed by a gentleman not far from hence, that in the late famine, one of his farmers being straitened for bread, taking this plant for Colewort (to which it is not unlike in colour) ordered to boil a dish of it, and gave it to his wife and children, with the servants in his family; all of them became very sick, some vomited excessively, others slept two or three days without intermission, and one or two of them died.”

\* Mentioned by RAY as growing at Scrammerston-Mill, between the Salt-Pans and Berwick, on the sea beach, about a mile and a half from Berwick; also near Whitehaven in Cumberland, and against Bigger in the Isle of Walney in Lancashire, plentifully, Mr. LAWSON; (near Trefaxth in Anglesea, and in abundance by the river Ufni in the way from Dinardindle to Clynog in Carnarvonshire, Mr. LLWYD;) in several places along the south side of the Firth of Forth, Dr. SIBBALD; on the sea-coast of Scotland not unfrequent, growing out of stony beaches which seem incapable of affording vegetation, as on the coast of Fife, near St. Andrews, &c. in the Isle of Bute, upon a sandy shore in Arran, at Loch Ranfa, and at Lamlaish, at Icolumbkill, and at Glenelg in Invernessshire, LIGHTFOOT Scot. at the ferry on the sea shore near Inverness, in great plenty, Mr. DICKSON.





*Salicaria mollis*

Stems of E. S. S. S. S.



# 19

## HYDROCOTYLE VULGARIS. MARSH PENNYWORT, or WHITE-ROT.

HYDROCOTYLE *Linn. Gen. Pl.* PENTANDRIA DIGYNIA.

*Umbella simplex: Involucro 4-phylo. Petala integra. Semina semiorbiculato-compressa.*

*Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.*

HYDROCOTYLE *vulgaris* foliis peltatis, umbellis quinquefloris. *Linn. Syst. Vegetab. p. 271. Sp. Pl. p. 338. Fl. Suec. n. 234.*

HYDROCOTYLE foliis rotundis emarginatis, petiolis centralibus, umbellis fastigiatis. *Hall. Hist. 812.*

RANUNCULUS aquaticus, cotyledonis folio. *Baub. Pin. 180.*

COTYLEDON palustris. *Ger. emac. 350. Parkinsf. 1214.*

HYDROCOTYLE *vulgaris.* *Inst. R. H. 328. Raii Syn. p. 222. Marsh Pennywort, or White-Rot. Hudson Fl. Angl. ed. 2. p. 110.*

RADICES perennes, capillacæ, albidæ.

CAULIS repentes, teretes, glabri, ad genicula radican-  
cantes.

FOLIA longitudine et latitudine vix pollicaria, longe petiolata, peltata, orbiculata, repanda aut sublobata, crenulata, centro nonnihil depresso, punctoque albido notata, utrinque venis anastamofantibus reticulata, glaberrima, nitentia, læte viridia. *Petioles* subpollicares, erecti, teretes, glabri, inferne nudi, superne pilis setosis, horizontalibus, distantibus, hispiduli.

FLORES parvi, glomerati, albi, aut subrubelli, prope terram e repente caule ad axillas petiolorum prodeuntes.

PEDUNCULI communes solitarii, vix ultra pollicares, erecti, teretes, pilosiusculi, in glomerulis aut verticillis potius quam umbellulam terminantes. *Stipulae* duæ, subrotundæ, membranacæ, albæ, ad basin cujusvis pedunculi.

FLOSCULI 5, ad 9, fertiles, exigui, brevissime pedicellati. Folium minutum, lineari-subulatum, singulo flosculo subiectum.

PERIANTHIUM proprium vix ullum.

COROLLA pentapetala, linearis diametro, PETALA ovata, acuta, integra, patentia, pallide rosea, *fig. 1, 2, auct.*

STAMINA: FILAMENTA 5, subulata, albida, corollæ breviora. ANTHERÆ minimæ, albæ, *fig. 3.*

PISTILLUM: GERMEN inferum, erectum, compressum, orbiculatum, subtrigonum, *fig. 4.* corpusculo fungoso, flavo, coronatum; STYLI duo, subulati, brevissimi; STIGMATA obtusiuscula, alba, *fig. 5.*

PERICARPIUM nullum: FRUCTUS orbiculatus, compressus, bipartibilis.

SEMINA duo, orbiculata, compressa, pallide fusca.

ROOTS perennial, capillary, whitish.

STALKS creeping, round, smooth, striking root at the joints.

LEAVES in length and breadth about an inch, standing on long footstalks inserted into the centre of the leaf, orbicular, waved or somewhat lobed and notched on the edge, the centre a little depressed, and marked with a white dot, veins anastomosing and forming a kind of net-work on each side of the leaf, perfectly smooth, glossy, and of a bright green colour. The *Leaf-Stalks* about two inches long, upright, round, smooth, naked below, above beset with bristly, horizontal, distant hairs.

FLOWERS small, in clusters, white or reddish, proceeding from the creeping stalk near the ground out of the axæ of the leaf-stalks.

GENERAL PEDUNCLES single, little more than an inch in length, upright, round, slightly hairy, producing little balls or whorls rather than terminating in an umbel of flowers. *Stipulae* two, roundish, membranous, white, at the base of each peduncle.

FLORETS from 5 to 9, very small, standing on very short foot-stalks, a very minute leaf, narrow and tapering, placed under each floret.

PERIANTHIUM of each floret scarcely any.

COROLLA pentapetalous, a line in diameter, the PETALS ovate, pointed, entire, spreading, of a pale rose colour, *fig. 1. magnif. fig. 2.*

STAMINA: 5 FILAMENTS, tapering, whitish, shorter than the corolla: ANTHERÆ very small and white, *fig. 3.*

PISTILLUM: GERMEN beneath the corolla upright, flattened, orbicular, somewhat three-cornered, *fig. 4.* crowned with a yellow fungous substance; STYLES two, tapering, very short; STIGMATA bluntish, white, *fig. 5.*

SEED-VESSEL none, FRUIT orbicular, flattened, splitting in two.

SEEDS two, orbicular, flattened, of a pale brown colour.

The name of *White-Rot* has been given to this plant, from an idea of its being the cause of the rot in sheep, an opinion founded, we apprehend, more on conjecture than experiment; the real cause of that disease is, we fear, yet to be discovered, and will not be found, perhaps, to arise from their feeding on any particular plant.

It is extremely common on all boggy ground near London, and, we believe, in every part of Great-Britain. It flowers in July and August.

The fructification of this plant, which proves it truly to be related to the umbelliferi, is rarely seen without a close examination, being usually hidden by the leaves, but as it is plentifully produced, it may readily be discovered at the proper season.

The leaf affords an excellent example of what LINNÆUS calls the *folium peltatum*.





*Hydrocotyle vulgaris*





*Chenopodium murale*



# CHENOPODIUM MURALE. NETTLE-LEAVED GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Cal.* 5-phyllus, 5-gonus. *Cor.* o. *Sem.* 1. lenticulare, superum.

*Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *murale* foliis ovatis nitidis dentatis acutis, racemis ramosis nudis. *Lin. Syst. Vegetab.* p. 261. *Sp. Pl.* p. 318. *Fl. Suec.* 216.

ATRIPLEX *fylvestris latifolia*, acutiore folio. *Baub. Pin.* 119.

ATRIPLEX dicta *Pes anferinus alter f. ramosior.* *Baub. hist.* 976.

ATRIPLEX *fylvestris latifolia altera.* *Ger. emac.* 328.

BLITUM *Pes anferinus dictum acutiore folio.* *Raii Syn.* p. 154. ? The other Goosefoot. *Huds. Fl. Angl. ed. 2.* p. 105.

Tota planta gravem odorem spirat.	♂ The whole plant smells disagreeably.
RADIX annua, fusiformis, albida, rigida, fibrillis plurimis patentibus instructa.	♀ ROOT annual, tapering, whitish, rigid, furnished with numerous spreading small fibres.
CAULIS erectus, pedalis ad bipedalem, ramosissimus, subangulosus, inferne glaber, superne farinosus, plerumque viridis, sæpe purpureus aut lineis purpureis notatus.	♀ STALK upright, one or two feet high, very much branched, slightly angular, below smooth, above mealy, most commonly green, but often wholly purple, or marked with purple lines.
RAMI alterni, pulverulenti.	♀ BRANCHES alternate and mealy.
FOLIA alterna, petiolata, subovata, acuta, inæqualiter ferrata, superne nitida, inferne pulverulenta, apicibus denticulorum rubicundis.	♀ LEAVES alternate, standing on footstalks, subovate, pointed, unequally sawed, above glossy, beneath mealy, the tips of the teeth reddish.
PETIOLI superne canaliculati, longitudine foliorum.	♀ LEAF-STALKS hollow above, the length of the leaves.
FLORES nunc herbacei, nunc purpurei, racemosi, racemis brevibus, nudis, ramosis, depressis, apice inflexis.	♀ FLOWERS sometimes green, sometimes purple, growing in bunches or racemi, which are short, naked, branched, depressed, and bent in at the tip.
CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, carinatis, farina diaphana adspersis, persistentibus, marginibus membranaceis, albidis, fig. 1.	♀ CALYX: a PERIANTHIUM of five leaves, the leaves ovate, concave, keeled, permanent, sprinkled with transparent meal, the edges membranous and whitish, fig. 1.
COROLLA nulla.	♀ COROLLA wanting.
STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ majusculæ, ochroleucæ, didymæ, fig. 2.	♀ STAMINA: five white FILAMENTS, a little longer than the calyx: ANTHERÆ largish, yellow, and double, fig. 2.
PISTILLUM: GERMEN orbiculatum: STYLI duo, brevissimi, minimi, fere inconspicui, fig. 3.	♀ PITILLUM: GERMEN round and flat; STYLES two, very small and short, almost inconspicuous, fig. 3.

The leaves of this species of *Chenopodium* have some small resemblance to those of the great Stinging-Nettle, hence we have given it the English name of *Nettle-leaved*, in preference to that of *wall* (*murale*) to which, from its place of growth, with us at least, it has little pretensions, as it is usually found on dunghills, and on banks by road sides.

It grows plentifully on most of the great roads leading from the metropolis; we have seen it in very great abundance during the late autumn on the Edgware road. It flowers from August to October.

The whole plant is sometimes entirely green, and sometimes tinged with red.

It is most strikingly distinguished from the other species by the particular form of its racemi, or flower branches, which are short and spread out widely, so as to give them a flat or depressed appearance, the tops somewhat curled in; in the *rubrum* and *urbicum*, the species most liable to be mistaken for it, the racemi are perfectly upright; its glossy leaves and unpleasant smell contribute also to point it out.

Like most of the other plants of this genus, it affords plenty of seeds, which assist in supporting the numerous tribe of small hard-billed birds.



# CHENOPODIUM RUBRUM. SMALL-SEEDED GOOSE-FOOT.

CHENOPODIUM. Linn. Gen. Pl. PENTANDRIA DIGYNIA.

Cal. 5-fidus, 5-costatus. Cor. o. Sem. 1. lenticulare superum horizontale calice conniventi tectum.

CHENOPODIUM. Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS).

CHENOPODIUM rubrum foliis cordato-triangularibus obtusiusculis dentatis, racemis erectis compositis subfoliosis caule brevioribus. Linn. Syst. Nat. ed. 13. Gmel. p. 448. Syst. Vegetab. ed. 14. Murr. p. 261. Sp. Pl. ed. 3. p. 318. Fl. Suec. ed. 2. p. 78. Lightfoot v. 1. p. 148. Hudf. Angl. ed. 2. p. 105.

CHENOPODIUM foliis glabris nitentibus, acute circumdentatis. Hall. Hist. n. 1588.

ATRIPLEX fylv. latifolia. Baub. Pin. 119.

ATRIPLEX sylvestris III. Matth. p. 462.

ATRIPLEX sylvestris latifolia sive Pes Anserinus. Goose-Foot. Ger. emac. p. 328. f. 1. Park. p. 749. f. 8.

BLITUM Pes Anserinus dictum. Goose-Foot or Sow-Bane. Raii Syn. ed. 3. p. 154.

BLITO Pes Anserinus dicto similis. Raii Syn. ed. 3. p. 154.

BLITUM Morifono Atriplex procumbens folio sinuato lucido crasso dictum. Raii Syn. ed. 3. p. 154. Regarded by Mr. HUDSON as a variety of murale.

RADIX annua, fibrosa.

CAULIS pedalis, bipedalis, et ultra, plerumque erectus, inæqualiter striatus, lævis, viridis, purpurascens etiam ruberrimus, nonnunquam simplex, sæpius vero ramosus, ramis inferioribus patentibus, et haud infrequenter decumbentibus.

FOLIA petiolata, subcarnosa, glabra, nuda, subtus venosa, in petiolum decurrentia, sinuata, dentata, dentibus utrinque a basin secundis cæteris plerumque multo majoribus, omnibus acutiusculis et sæpe rubro marginatis.

PETIOLI longi, at foliis ipsis breviores.

FLORES minimi, spicati, virides, purpurascens, aut vivide purpurei, in glomerulis sessilibus subrotundis dense collocati, sub singulo glomerulo foliolum glomerulo longius, hinc spicæ foliosæ evadunt, glomeruli ipsi etiam foliosi nonnunquam observantur.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, patentibus, margine membranaceis, demum clausis, semen includentibus, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ flavæ, fig. 2.

PISTILLUM: GERMEN subovatum, compressum; STYLUS brevissimus; STIGMATA duo, villosa, patentia, fig. 3.

SEMEN minimum, lentiforme, nitidum, saturate fuscum, calyce non penitus tectum, fig. 4.

ROOT annual and fibrous.

STALK a foot, two feet or more in height, generally upright, unevenly striated, smooth, green, purplish, or even very red, sometimes simple, but most commonly branched, the lower branches spreading and not unfrequently decumbent.

LEAVES standing on footstalks, somewhat fleshy, smooth, naked, veiny on the under side, running down the foot-stalk, sinuated, toothed, the second teeth on each side from the base usually much larger than the others, all of them somewhat pointed, and often edged with red.

LEAF-STALKS long, but shorter than the leaves themselves.

FLOWERS very minute, spiked, green, purplish, or very bright purple, placed close together, in small roundish sessile balls, under each little ball or cluster is placed a small leaf, longer than the ball itself, which gives to the spikes a leafy appearance, the little clusters themselves are sometimes observed leafy.

CALYX: a PERIANTHIUM of five leaves, which are ovate, concave, spreading, membranous on the edge, finally closing and containing the seed, fig. 1.

COROLLA none.

STAMINA: five white FILAMENTS a little longer than the calyx; ANTHERÆ yellow, fig. 2.

PISTILLUM: GERMEN somewhat ovate, flattened, STYLE very short; STIGMATA two, villous, and spreading, fig. 3.

SEED very minute, lens-shaped, shining, of a deep brown colour, not wholly covered by the calyx, fig. 4.

We have often had occasion to remark, that the more common plants, which grow as it were under our feet, are infinitely more difficult to ascertain than those which are rare; this arises in some from a deficiency perhaps of specific character, but more from that diversity of appearance which they assume in consequence of growing in soils and situations widely different: we have always found students, and even those well versed in plants, at a loss in making out the different species of Chenopodium, and more especially the present species; and we suspect that LINNÆUS, in his account of it, has in some degree contributed rather to obscure than elucidate it; in his *Flor. Suec. ed. 2.* in describing it, he says, *caules decumbentes et terræ appressæ*; though this may be true of it when growing in certain situations, as in *plateis Stockholmæ*, it is not generally so; on dunghills, which are frequently covered with it alone, and in waste places that have been overflowed in the winter, situations which this plant principally and very generally affects with us; the main stem is for the most part perfectly upright, as much so as that of the *urbicum*; when it grows singly in soils not very luxuriant, and especially at the close of the year, not only the lower branches are often procumbent, but the whole plant is so, and often in a dwarf state; indeed one can scarcely imagine two plants more different than the one starving in the situation last described, and the other flourishing on a rich dunghill, or a moist ditch originating near it, where it frequently attains the height of three feet.

There is another circumstance which has contributed also to render a knowledge of this plant difficult, and that has arisen from its colour: Botanists have not been aware that there are two principal varieties of it, one of a fine purple, which extends sometimes to the whole plant, and is so brilliant as to render it even ornamental, the other pale green without the least tinge of red; and these two may generally be found growing near each other.

We have long since discovered the means of distinguishing with certainty this plant, under all its appearances, from the *urbicum*, with which it has the greatest affinity (Mr. HUDSON, indeed, suspected that these two plants were varieties only of each other) and that by the difference in the size of their respective seeds; those of the *rubrum* are very minute, not much larger than the largest grains of common writing sand, and those of the *urbicum* are nearly the size of rape-seed.

To see the flowers of this plant, we must examine it when very young in August and September.

Cattle of no kind shew any disposition to eat this herb, which is, however, reported to be noxious to swine, perhaps, on no good authority: the seeds afford abundant food for small birds; agriculturally considered, it must be regarded as a weed, though not so generally troublesome as some of the others of the genus.





*Chenopodium rubrum*





*Caulis Anthriscus.*



# CAUCALIS ANTHRISCUS. HEDGE CAUCALIS.

Huds. Fl. Angl. ed. 2. p. 112. PENTANDRIA DIGYNIA.

Corollæ radiatæ. Fructus subovatus, striatus, fetis rigidis hispidus.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CAUCALIS *Anthriscus* involucris multifidis\*, umbella conferta, feminibus oblongis, foliolis ovatis pinnatifidis, ramis erectis. Huds. Fl. Angl. ed. 2. p. 12.

TORDYLIUM *Anthriscus* umbellis confertis, foliolis ovato-lanceolatis, pinnatifidis. Linn. Syst. Vegetab. p. 275. Mantif. 350. Jacq. Fl. Austr. v. 3. t. 251.

CAUCALIS foliis duplicato-pinnatis, nervo multoties latioribus. Hall. Hist. n. 741.

CAUCALIS *Anthriscus*. Scopoli Fl. Carn. n. 311.

CAUCALIS semine aspero flosculis rubentibus. Baub. Pin. 153.

CAUCALIS minor flosculis rubentibus. Ger. emac. 1022.

CAUCALIS minor flore rubente. Parkins. 921.

ANTHRISCUS quorundam semine aspero hispido. I. B. III. 2. 83. Raii Syn. ed. 3. p. 219. An. 4. Hedge Parsley.

RADIX annua, tenuis, fusiformis, parum fibrosa, extus flavicans, intus alba.

CAULIS 4-6 pedalis, erectus, subflexuosus, teres, purpureo-fuscus, scaber, fetis minutis rigidis vix visibilibus deorsum appressis vestitus, ramosus. Rami plures, alterni, suberecti.

FOLIA pauca, fere palmaria, remota, patentissima, duplicato-pinnata, ad apices deflexa, petiolata, petiolis canaliculatis, basi latiore subvaginantibus; Pinnarum tria, quatuorve paria, cum impari, ovata, acuta, inferiores petiolata, latiores, sequentes sessiles, breviores, angustiores, extrema longissima, lineari-lanceolata; Foliola inciso-ferrata acutiuscula, fetis minutis conspicuis tamen obsita.

FLORES in umbellis mediocribus planis, albi aut rubentes, inodori.

UMBELLA *universalis* planiuscula, rara, inæqualis, radiis circiter octo; *partialis* paulo densior, convexiuscula, inæqualis, radiis 12 aut pluribus, exterioribus longioribus, omnibus fetis sursum appressis hispidis.

INVOLUCRUM: *universale* polyphyllum, dimidia radiorum longitudine, foliolis radiorum plerumque numero, linearibus, acutis, margine membranaceo, albido; *partiale* polyphyllum, foliolis confimilibus, appressis, longitudine umbellularum.

PERIANTHIUM proprium 5-dentatum, exiguum sæpe inter pilos reconditum.

COROLLA: *universalis* difformis, radiata; Flosculi disci abortivi; *propria* disci mas, parva, petalis 5 inflexo-cordatis, æqualibus; *propria* radii hermaphrodita, petalis 5, inflexo cordatis, patentissimis, subtus villosiusculis, extimis paucis majoribus, bifidis, fig. 1. auct.

STAMINA omnibus, FILAMENTA 5, capillaria, petalis paulo longiora; ANTHERÆ parvæ, didymæ, purpureæ, fig. 2.

PISTILLUM: GERMEN oblongum, inferum, hispidum; STYLI duo, breves, patentes, demum reflexi; STIGMATA duo, obtusa.

PERICARPIUM nullum: Fructus parvus, ovatus, leviter compressus, fig. 4.

SEMINA duo, hinc gibba, trifurca, fetis rigidis sursum arcuatis albis aut rubellis hispida, illinc lineam glabra longitudinaliter excavata, fig. 5.

ROOT annual, slender, tapering, slightly fibrous, yellowish without and white within.

STALK from 4 to 6 feet high, upright, a little crooked, round, purplish, rough, covered with minute rigid bristles, pressed downwards to the stalk, and scarcely visible, branched. The Branches numerous, alternate, and nearly upright.

LEAVES few, a hand's-breadth nearly in length, distant, spreading greatly, doubly pinnated, turned downwards at the tips, standing on footstalks, which are hollowed above, broader at the base and somewhat sheathing; Pinnæ three or four pair, with an odd one, ovate, pointed, the lower ones standing on footstalks, broader, the upper ones sessile, shorter, narrower, the outermost very long, betwixt linear and lanceolate; the small Leaves of which they are composed inciso-ferrated, a little pointed, covered with very minute yet visible setæ.

FLOWERS white or reddish, without scent, growing in middle-sized flat umbels.

UMBEL: the *universal* one flattish, thin, unequal, with about eight rays; the *partial* one a little thicker, somewhat convex, unequal, with about twelve or more rays, the outermost longest, all of them hispid with setæ pressed upwards.

INVOLUCRUM: the *universal* one composed of many leaves, about half the length of the rays, the leaves usually as numerous as the rays, linear, pointed, the margin membranous and white; the *partial* one composed of many leaves, similar to the others, pressed to the rays, the length of the small umbels.

PERIANTHIUM of each floret 5-toothed, minute, often hid among the hairs.

COROLLA: the *general* one misshapen, radiated; Florets of the disk abortive; each floret of the disk male, small, of 5 petals, inflexo-cordate, equal; each floret of the radius hermaphrodite, of 5 petals, inflexo-cordate, very widely spreading, on the under side slightly villous, the outermost ones somewhat largest and bifid, fig. 1. magn.

STAMINA in all the flowers, 5 capillary FILAMENTS, a little longer than the petals; ANTHERÆ small, double, and purple, fig. 2.

PISTILLUM: GERMEN oblong, beneath the corolla, hispid; STYLES two, short, spreading, finally bowed back; STIGMATA two, blunt.

SEED-VESSEL none: Fruit small, ovate, slightly flattened, fig. 4.

SEEDS two, on one side gibbous, with three grooves, hispid with rigid bristles of a white or red colour, bowed upwards, on the other side marked longitudinally with one smooth hollow groove, fig. 5.

\* We presume Mr. HUDSON means polyphyllis.



The *Caucalis Anthriscus* approaches so near to the *infesta* already figured, as sometimes to occasion some little difficulty in distinguishing the two: this difficulty did not escape the observation of RAY, who with uncommon accuracy has pointed out the peculiarities of each in his *Hist. Plant.* which we shall place before our readers, nearly in his own words.—“ 1st, The *Anthriscus* is the taller plant, growing to the height of two cubits (three feet); the *infesta*, more dwarf, scarcely ever exceeds a foot, or one cubit at farthest. 2dly, The *Anthriscus* is more upright, with longer internodes; the *infesta*, with a more crooked stalk, has more numerous joints. 3dly, The stalk of the *Anthriscus* is more hirsute near the ground than that of the *infesta*. 4thly, The florets of the *Anthriscus*, which are white, or of a pale red colour, have petals nearly equal in size, with purple antheræ; the florets of the *infesta* are white, verging to yellow; the two outermost petals are very manifestly larger than the rest, and the antheræ white. 5thly, The seeds of the *infesta* are by far the largest, and the little tips on the crown of the seed green; those of the *Anthriscus* are more fragrant, more aromatic, and of a duller colour with purple tips. Lastly, The *Anthriscus* is seldom found but in hedges and among bushes, while the *infesta* is never found in hedges, but for the most part among corn.”

These distinctions, as far as we have observed, are perfectly just, and worthy of their author: we shall only observe in addition, that when we have been at a loss for a distinction, the most ready one has been afforded by the presence of the involucre, from which Mr. HUDSON has judiciously taken a part of its specific character; the leaves of this, however, though always present, are sometimes so closely pressed to the radii, as not to be immediately visible; the styles too, in general, are bent or bowed back to a greater degree than in the *infesta*.

This plant is very common in the neighbourhood of London, in the situations RAY describes, flowering in July. Though the *infesta* may sometimes prove a troublesome weed, this, from its place of growth, is in no degree such.

SCOPOLI observes, that as the seed is not flat, nor has a margin, it cannot be considered as a *Tordylium*; he remarks also, that he has seen a cultivated plant with an involucre of one leaf, and without any; as this is quite contrary to our experience, we suspect he was deceived by the leaves of the involucre being pressed close to the radii, which, as we have before observed, very often happens.



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# CAUCALIS INFESTA. CORN CAUCALIS.

CAUCALIS *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Cor. radiatæ; disci masculæ. Petala inflexo-marginata. Fructus fetis hispidus. Involucra integra.*

*Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.*

CAUCALIS *arvensis* involucro universali monophyllo, umbella conferta, feminibus rotundato-ovatis, foliolis ovato-lanceolatis, pinnatifidis, ramis divaricatis. *Huds. Fl. Angl. ed. 2. p. 113.*

SCANDIX infesta femine exteriori hispido, umbellulis confertissimis hemisphæricis. *Lin. Syst. Vegetab. p. 237. Jacq. Fl. Austr. t. 46.*

CAUCALIS foliis duplicato-pinnatis, pinnulis longe confluentibus. *Hall. Hist. 742.*

CAUCALIS fegetum minor Anthriscus hispido similis. *Raii Syn. p. 20. Hist. Pl. p. 468. Small Corn-Parley.*

CAUCALIS pumila fegetum Goodyero. *Ger. emac.*

RADIX annua, fusiformis, tenuis, sublignosa, albida.

CAULIS solitarius, semipedalis ad bipedalem, prope basin in ramos patentes, longos divisus, parum flexuosus, teres, inferne glaber, subrubens, superne scabriusculus, striatus, viridis.

FOLIA alterna, sessilia, remotiuscula, patentia, apice parum deflexa, petiolata, pinnata, pilis minutis albis utrinque hirsutula, sordide viridia, pleraque demum purpurea; *Foliola* seu pinnæ tres, ad septem, oppositæ, circumscriptione ovatæ, aut ovato-lanceolatæ, extima longissima, pinnatifidæ, laciniis lanceolatis, acutis: infimæ petiolatæ, remotiores, ceteræ sessiles, superiores confluentes.

FLORES in umbellis, parvi, albi, inodori.

CALYX: UMBELLA *universalis*, inæqualis, radiis tribus ad novem.

———— *partialis* inæqualis, conferta, convexa, radiis pluribus, exterioribus quinque longioribus.

INVOLUCRUM *universale* submonophyllum, plerumque nullum.

———— *partiale* foliolis subquinis, lineari-subulatis, appressis, hirsutulis, umbellulæ fere longitudine.

PERIANTHIUM proprium, minutum, quinquedentatum.

COROLLA *universalis* difformis, radiata; flosculi disci sæpe abortivi.

———— *propria* hermaphrodita; PETALIS quinque inflexo-cordatis, inæqualibus, extimo maximo, ceteris gradatim diminutis, *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERÆ parvæ, purpurascens, *fig. 2.*

PISTILLUM: GERMEN oblongum, inferum, hispidum, pilis apice rubris, *fig. 3.* STYLI duo, subulati, patentes; STIGMATA duo, capitata, *fig. 4.*

FRUCTUS ovato-oblongus, striatus, fetis rigidis uncinatis hispidissimus, *fig. 5.*

SEMINA duo, oblonga, hinc convexa, inde plana.

ROOT annual, tapering, slender, somewhat woody, and whitish.

STALK single, from half a foot to two feet high, divided near the base into long spreading branches, a little crooked, round, smooth below, and reddish; above roughish, striated, and green.

LEAVES alternate, sessile, somewhat remote, spreading, turned down a little at the tip, standing on footstalks, pinnated, covered on both sides with minute white hairs, whence slightly hirsute, of a dull green colour, most of them finally purple; the *leaflets* or pinnæ from three to seven, opposite, ovate or ovato-lanceolate, the outermost very long, pinnatifid, the segments lanceolate, pointed, the lowermost standing on footstalks, and more distant than the others, the rest sessile, the upper ones running together.

FLOWERS growing in umbels, small, white, and scentless.

CALYX: the *universal* UMBEL, unequal, with from three to nine rays.

———— the *partial* UMBEL, unequal, crowded, convex, composed of numerous rays, the five outermost of which are the longest.

INVOLUCRUM: the *general* one, of one leaf, more or less, most commonly wanting.

———— the *partial* one, composed of about five small leaves, very narrow and tapering, appressed, slightly hirsute, almost the length of the small umbel.

PERIANTHIUM of each floret very small, with five teeth.

COROLLA: the *universal* COROLLA misshapen, radiated, the florets of the disk often abortive.

———— the *florets* hermaphrodite, composed of five PETALS, inflexo-cordate, unequal, the outermost very large, the rest gradually diminished in size, *fig. 1.*

STAMINA: have five capillary FILAMENTS, and small purplish ANTHERÆ, *fig. 2.*

PISTILLUM: GERMEN oblong, below the corolla, hispid, hairs red at the tips, *fig. 3.* STYLES two, tapering, spreading wide; STIGMATA two, each forming a little head, *fig. 4.*

FRUIT ovato-oblong, striated, exceedingly hispid, with stiff hooked bristles, *fig. 5.*

SEEDS two, oblong, convex on one side, and flat on the other.

Most of the ancient Botanists confounded this plant with the *Caucalis Anthriscus*, which they might do without any great disparagement of their discernment: Mr. GOODYER, of *Hampshire*, the friend of old GERARD, and often mentioned by him with respect, appears first to have noticed it; RAY afterwards describes it with great accuracy.

Though the plant appears now to be well known, Botanists differ as to the genus to which it should be referred: LINNÆUS in his *Systema Naturæ* has considered it as a *Scandix*, and JACQUIN in his accurate and elegant work has followed him; BARON HALLER, on the contrary, ranks it as a *Caucalis*, and Mr. HUDSON, in our humble opinion with great propriety, coincides with him in opinion; for we apprehend it will generally be allowed that in the umbelliferous plants, a character taken from the seed is more to be depended on than one drawn from the involucre;—we have therefore taken Mr. HUDSON's specific description, but that we might differ as little as possible from LINNÆUS, we have changed the generic name only.

The term *infesta* has been applied to this plant, from its being a very common and bad weed in corn-fields, to which it is not altogether confined, being sometimes found by the sides of hedges and among rubbish: we meet with it frequently in *Battersea* fields, where it flowers from *June* to *August*.—The seeds when ripe adhere to one's clothes.





*Caulis infesta.*



## CHÆROPHYLLUM TEMULUM. SMALL COW-PARSLEY.

CHÆROPHYLLUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.*Involucrum* reflexum, concavum. *Petala* inflexo-cordata.  
*Frucllus* oblongus, lævis.*Raii Syn. Gen.* 11. UMBELLIFERÆ HERBÆ.CHÆROPHYLLUM *temulum*, caule scabro: geniculis tumidis. *Lin. Syst. Vegetab.* p. 288. *Spec. Plant.* p. 370. *Fl. Suec.* n. 258.MYRRHIS foliis hirsutis, laciniis obtusis, caule geniculato. *Haller Hist.* n. 750.CHÆROPHYLLUM *sylvestre*. *Baub. Pin.* 152.CEREFOLIUM *sylvestre*. *Ger. emac.* 1038. *Park.* 915.ANTHRISCUS *Plinii* quibusdam, femine longo *Cicutariæ* aut *Chærophylli*. *I. B. III.* 2. 70. *Raii Syn.* p. 207. *Wild Chervil.* *Hudson Fl. Angl. ed.* 2. p. 125. *Lightfoot Fl. Scot.* p. 167.

RADIX biennis, subramosa, albida.

ROOT biennial, somewhat branched, and whitish.

CAULIS bipedalis et ultra, erectus, ramosus, teres, solidus, ad genicula fragiles, aut penitus atropurpureus, aut maculis atropurpureis adspersus, brevissimis pilis vestitus, scabriusculus, geniculis tumidis et manifeste striatis.

STALK two feet or more in height, upright, branched, round, solid, brittle at the joints, either wholly of a dark purple, or spotted with the same colour, covered with very short hairs, and roughish to the touch, the joints swelled and obviously striated.

FOLIA radicalia et ramea ex petiolo vaginante orta, hirsutula, mollia, flaccida, duplicato-pinnata, pinnis subovatis, obtusis et lobato-incisis.

LEAVES next the root and those of the branches furnished with a footstalk which has a sheath at bottom, slightly hirsute, soft, flaccid, doubly pinnated, the pinnæ somewhat ovate, obtuse, and cut into lobes.

UMBELLÆ florentes erectæ, aut in latus parum inclinatæ, antea valde nutantes.

UMBELS when in flower upright, or inclined a little to one side, when young drooping very much.

UMBELLA *universalis* componitur ex radiis numero variis, a quinque ad duodecim, exterioribus longioribus, *partialis* radii numero fere duplicantur.UMBEL: the *universal* one is composed of rays which vary in number from five to twelve, the outermost longest, the *partial* umbel has almost twice as many.INVOLUCRUM *universale* plerumque nullum, *partiale* constat foliolis plus minus senis, lanceolatis, acutis, reflexis.INVOLUCRUM: the *general* involucre is for the most part wanting, the *partial* one consists of six leaves, more or less, which are lanceolate, pointed, and turned back.COROLLA *universalis* subuniformis, flosculis disci raro nisi in fero florentibus abortientes; *propria* petalis quinque, albis, inflexo-cordatis, exterioribus paulo majoribus, *fig. 1. auct.*COROLLA: the *universal* corolla somewhat uniform, the florets of the disk rarely abortive, unless in those which flower late, each *individual* composed of five white petals, which, having the tip bent inward, become heart-shaped, the outermost ones rather largest, *fig. 1. magn.*STAMINA: FILAMENTA quinque alba: ANTHERÆ albidæ, *fig. 2.*STAMINA: five white FILAMENTS; ANTHERÆ whitish, *fig. 2.*PISTILLUM: GERMEN inferum; STYLI duo reflexi; STIGMATA obtusa, *fig. 3.*PISTILLUM: GERMEN beneath the flower; STYLES two, reflexed; STIGMATA blunt, *fig. 3.*SEMINA oblonga, glabra, fusca, acuta, intus concava, extus obsolete et obtuse quinque sulcata, angulis pallentibus, *fig. 4.*SEEDS oblong, smooth, brown, pointed, on the inside hollow, on the outside faintly and bluntly marked with five grooves, the angles paler, *fig. 4.*

The *Chærophylum temulum* is nearly as common a plant as the *sylvestre*, flowers a month or six weeks later, and is more confined to sheltered situations; it delights to grow under hedges, but is rarely met with in open pastures.

The roughness, deep purple colour, and swelled joints of the stalk, readily distinguish it not only from the *sylvestre*, but from our other umbelliferous plants; the stalk is also frequently spotted with purple, and hence the ignorant, who often distinguish the Hemlock by that character alone, may be led to mistake it for that plant; we may remark also, that the umbels, when young, droop remarkably.

Why LINNÆUS should give it the name of *temulum*, unless from the last-mentioned circumstance, we know not: HALLER, who read almost every book on Botany and Medicine, is silent as to its effects.

The seeds afford the best distinction of the genus *Chærophylum*, the *general involucre* being with us for the most part wanting, both in this species and the *sylvestre*.





*Chaerophyllum temulum.*



# SCILLA AUTUMNALIS. AUTUMNAL SQUIL.

SCILLA. *Linn. Gen. Pl.* HEXANDRIA MONOGYNIA.

*Cor.* 6-petala, patens, decidua. *Filamenta* filiformia.

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

SCILLA *autumnalis* foliis filiformibus linearibus, floribus corymbosis, pedunculis nudis adscendentibus longitudine floris. *Linn. Syst. Vegetab. ed. 14. Murr. p. 329. Sp. Pl. 443.*

HYACINTHUS stellaris autumnalis minor. *Baub. Pin. p. 47. et major ejusd. p. 46.*

HYACINTHUS autumnalis major et minor. *Clus. Hist. 1. p. 185. fig. 1, 2. Magn. Bot. Monsp. p. 134.*

HYACINTHUS autumnalis. Winter Hyacinth.—autumnalis major. Great Winter Hyacinth. *Ger. Herb. p. 98. f. 3, 4. emac. 110. fig. 1, 2.*

HYACINTHUS autumnalis minor. The lesser Autumn Jacinth. *Park. Parad. p. 132.*

RADIX bulbis subrotundus, albidus, tunicatus, sapore subdulci, mucilaginosus, fibrillis albidis.	ROOT a roundish bulb, of a whitish colour, coated, of a sweetish taste and mucilaginous, the fibres whitish.
FOLIA plurima, radicalia, linearia, scapo breviora, glabra, interne canaliculata, externe convexa, striata, recurva, obtusiuscula.	LEAVES numerous, from the root, linear, shorter than the scapus, smooth, internally concave, externally convex and striated, bent back, somewhat blunt at the points.
SCAPUS subtriuncialis, erectus, teres, striato-angulosus, ad lentem villosus, nudus, inferne ex albivirescens, superne purpurascens.	SCAPUS about three inches high, upright, round, between scored and angular, villous if magnified, naked, below of a whitish green colour, above purplish.
FLORES 5—12 racemosi, e purpureo-cærulescentes.	FLOWERS from 5 to 12, growing in a racemus, of a blueish purple colour.
PEDUNCULI adscendentes, longitudine floris, ebracteati.	PEDUNCLES ascending, the length of the flower, without a bractæa.
COROLLA: PETALA sex, ovata, quorum tria paulo angustiora, obtusiuscula, apice callosa, e viridi fulca, fig. 1.	COROLLA: six PETALS, ovate, three of which are a little narrower than the rest, callous and of a greenish brown colour at the tips, fig. 1.
STAMINA: FILAMENTA 6, purpurascens, lata, subulata; ANTHERÆ subcordatæ, magnæ, primo saturate purpureæ, emisso polline nigricantes, fig. 2.	STAMINA: six FILAMENTS, of a purplish colour, broad, tapering, ANTHERÆ somewhat heart-shaped, large, at first of a deep purple colour, on shedding of the pollen blackish, fig. 2.
PISTILLUM: GERMEN subovatum, cærulescens, lineis sex albidis impressis notatum; STYLUS trigonus, trifurcatus, longitudine staminum; STIGMA simplex, fig. 3.	PISTILLUM: GERMEN somewhat ovate, blueish, marked with six impressed white lines; STYLE three-cornered, three-grooved, the length of the stamina; STIGMA simple, fig. 3.
PERICARPIUM: CAPSULA subrotunda, trivalvis, valvis ovatis, concavis, dissepimento per medium divisis, maturato semine patentibus, fig. 4.	SEED-VESSEL: a roundish CAPSULE of three valves, the valves ovate, concave, divided by a partition running through the middle, expanding wide when the seed is ripe, fig. 4.
SEMINA sex, duo singulam valvam implentia, majuscula, nigricantia, nitidula, trigona, latere exteriori convexo, duobus interioribus planis, fig. 5.	SEEDS six, two filling each valve, rather large, blackish, shining, three-cornered, the outer side convex, the two inner ones flat, fig. 5.

Most of the old writers who treat of the *Scilla autumnalis*, describe two kinds, a *major* and a *minor*; but as these distinctions are founded chiefly on the size of the plant, and which depends on accidental circumstances, they are not deserving of much attention. GERARD was not aware of its being a British native. PARKINSON informs us, that he found it growing on a bank by the Thames side, at the hither end of Chelsea; and he notices a variety of it with white flowers.

In Mr. RAY's Synopsis it is described to grow on Blackheath, on certain parts of which it may still be found in abundance; and, in the same work, it is said to be found plentifully on St. Vincent's-Rock, near Bristol; there also it still exists in great profusion, as I am assured by Dr. FORD, my much valued friend, who gave me this autumn many plants which he had gathered there, the bulbs of which were in general much larger than those which grow about London: it is found also near Ditton, on Moulsey-Hurst, over against Hampton-Court, and not many years since was observed sparingly on Kew-Green.

It usually grows in pastures where the soil is a light and not very fertile loam; in its wild state it rarely exceeds three inches in height, cultivated it acquires twice its usual size, and from one bulb spring several stems: it begins to flower about the third week in August, and continues in blossom three weeks or a month. In most of the wild specimens the flowering stalks come up without the leaves, in some few the leaves accompany them, and afterwards acquiring their full size, appear above ground the greatest part of the year; but, being small and grassy, they do not readily lead to a discovery of the plant.

Such as are desirous of cultivating this little herald of autumn, may raise it from seeds, which it produces in plenty, and from which CLUSIUS informs us, that he obtained flowering plants the third year; it may be increased also, though slowly, by its bulbs, which should be planted in a light loamy soil, and placed in a dry part of the garden; the best mode is to plant the bulbs in a pot of suitable earth, and plunge them in the border, they will thus be secured from being lost (which, from their size, they would be apt to be) when the border is dug up; the same treatment is applicable to any other small hardy bulbs.









*Saxifraga hirculus*



# SAXIFRAGA HIRCULUS. MARSH SAXIFRAGE.

SAXIFRAGA. *Linn. Gen. Pl.* DECANDRIA DIGYNIA.

*Cal.* 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1-locularis polysperma.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *Hirculus* foliis caulinis lanceolatis alternis nudis inermibus, caule erecto. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 413. *Sp. Pl. ed.* 3. *p.* 576. *Fl. Suec. ed.* 2. *n.* 370. *Mantiff. p.* 383. *Fl. Dan. t.* 200.

SAXIFRAGA *Hirculus* foliis alternis lanceolatis integerrimis acutis nudis, caule adscendente folioso. *Huds. Fl. Angl. ed.* 2. *p.* 181.

SAXIFRAGA foliis ellipticis caule unifloro. *Hall. Hist. n.* 972.

SAXIFRAGIA petalis latissimis luteis lineatis. *Hall. Hist. t.* xi.

GEUM angustifolium autumnale, flore luteo guttato. *J. R. H.* 252. *Raii. Syn. ed.* 3. *p.* 355.

SEDUM palustre luteum bicorni nardi celticæ foliis. *Mor. Hist. Ox. III.* 477. *f.* 12. *t.* 8. *f.* 5.

HIRCULUS frifcus Dortmanni. *Clus. Cur. post.* 5.

CHAMÆCISTUS frifcus foliis Nardi celticæ. *Baub. Pin.* *p.* 466.

CHAMÆCISTUS Frifcus. Frisian Dwarf Cistus. *Ger. Em. p.* 1284. *fig.* 8. *Park. Tb. p.* 656. *f.* 3.

RADIX perennis, fibrosa.

CAULIS subspithamæus, erectiusculus, simplex, foliosus, teres, sub-biflorus, pilis raris flexuosis fuscescentibus vestitus.

SURCULI radicales foliosi, procumbentes, radículas prominentes.

FOLIA sparsa, inferne magis conferta, suberecta, sessilia, ad basin tuberculo instructa, lineari-lanceolata, obtusiuscula, lævia, integerrima, crassiuscula, pilis raris caulinis similibus ciliata.

FLORES flavi, majusculi, priusquam aperiuntur nudentes.

CALYX: PERIANTHIUM 5-phyllum, foliolis ovato-oblongis, obtusis, pilis caulium similibus ciliatis, concaviusculis, demum reflexis.

COROLLA: PETALA quinque obovata, flava, calyce multo longiora, subnervosa, gibberibus duobus acuminatis ad basin insignita, punctisque numerosis aurantiacis ad medium usque maculata.

STAMINA: FILAMENTA decem, subulata, flava, erecta, alterna breviora, persistentia; ANTHERÆ flavæ, compressæ, biloculares, loculis demum inferne divergentibus.

PISTILLUM: GERMEN oblongum, majusculum, bifidum; STIGMATA duo, plana, villosa, infidentia.

PERICARPIUM: CAPSULA præter morem grandis.

ROOT perennial, and fibrous.

STALK about a span high, nearly upright, simple, leafy, round, supporting usually about two flowers covered with brownish hairs, crooked, and few in number.

SHOOTS from the root leafy, procumbent, putting out fibres.

LEAVES growing irregularly, more crowded below, nearly upright, sessile, furnished with a small tubercle at the base, betwixt linear and lanceolate, somewhat blunt, smooth, perfectly entire, thickish, edged with hairs like those on the stalk.

FLOWERS yellow, large, nodding before they open.

CALYX: a PERIANTHIUM of five leaves, which are ovato-oblong, obtuse, edged with hairs like those on the stalk, somewhat concave, finally reflexed.

COROLLA: five PETALS obovate, yellow, much longer than the calyx, somewhat ribbed, each characterised by two pointed tubercles at its base, and marked with numerous orange-coloured spots from the middle downwards.

STAMINA: ten FILAMENTS, tapering, yellow, upright, the alternate ones shortest, continuing; ANTHERÆ yellow, flattened, bilocular, the cavities finally diverging below.

PISTILLUM: GERMEN oblong, rather large, bifid; STIGMATA two, flat, villous, sitting on the germen.

SEED-VESSEL: a CAPSULE larger than in the other species of this genus.

Though the present species of Saxifrage is extremely rare in this country, and altogether local, it is found in various parts of Europe, as in Sweden, Switzerland, Lapland, and Siberia, and always in bogs: according to RAY, it was first discovered on Knutsford-Moor, Cheshire, by Dr. KINGSTON; upwards of twenty years since, Mr. HOWARD, Surgeon, of Knutsford, sent me roots of it, the produce of which I still retain; and lately I received an account of it, accompanied with a drawing, from Mr. BENJAMIN HALEY, Gardener to EGERTON, Esq. Tatton-Park, near Knutsford.

It is so very different from all the European Saxifrages, that there is scarcely a possibility of its being mistaken for any of them, yet it has been confounded with the *autumnalis*, from which it obviously differs in the superior size and form of its petals, the lower half of which is beautifully spotted with orange, and towards the base of each are two very singular pointed projections (*vid. fig. 1.*) which shews a petal magnified.

Persons not conversant with botanical names, are apt to affix a different meaning to its trivial name (*Hirculus*) to what it imparts; *Hirculus* signifies a little goat, and has been applied by some of the old Botanists to the *Valeriana celtica*, which the present plant resembles in its foliage.

As this plant, when properly treated, blows freely, and is very ornamental, we shall give a few directions for its culture, and those indeed may be comprised in a small compass, it being one of those plants that will live, if not egregiously neglected; all that is necessary, is to place a root of it in a pot of bog earth, and keep the pot in a pan of water, so that the earth shall be constantly moist; in the winter it will be proper to set the pot and pan under a frame, to guard against severe frost; or the plant will thrive very well in the open border (if moist, and formed chiefly of bog earth) and throw out shoots, which will take root and afford abundance of increase; the plant also may be increased by cuttings of the shoots, which will strike root if put under a close glass towards the close of the summer; if the plant be kept in a pot, it will be necessary to renew it once in two or three years.



# SAXIFRAGA OPPOSITIFOLIA. PURPLE SAXIFRAGE.

Linn. Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. Cor. 5-petala. Caps. 2-rostris, 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *oppositifolia* foliis caulinis oppositis imbricatis, summis ciliatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 413. Sp. Pl. p. 575. Fl. Suec. ed. 2. p. 142. Hudf. Fl. Angl. ed. 2. p. 180. Purple Saxifrage, Lightfoot, Scot. v. 1. p. 222.

SAXIFRAGA foliis ovatis quadrangulo imbricatis ramis procumbentibus. Linn. Fl. Lapp. 179.

SAXIFRAGA caule repente, foliis quadrifariam imbricatis, cartilagineis ciliatis. Hall. Hist. 980.

SEDUM alpinum ericoides cœruleum. Baub. Pin. 284. et purpurascens. ejusd.

SAXIFRAGA alpina ericoides flore cœruleo. Tourn. Inst. 253. Raii Syn. p. 353. ed. 3. Mountain Heath-like Sengreen, with large purple Flowers.

RADIX perennis, fibrosa, fusca.

CAULES plurimi, procumbentes, repentes, teretes, inferne nudi, fusci, e petris et rupibus sæpe dependentes funiculorum instar.

FOLIA alterne opposita, circa caules floriferos imbricatim dense collocata, subconnata, obovata, concava, subcarnosa, ad margines ciliata, apicibus depresso callosis albidis, furculorum magis remota.

FLORES in summis caulibus sessiles, solitarii, magni, speciosi, primum læte purpurei, demum cœrulescentes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, ciliatis, coloratis, inæqualibus, caulinis perquam similibus, fig. 1.

COROLLA: PETALA 5, subrotunda, unguibus brevibus instructa, fig. 2.

NECTARIUM: substantia glandulosa ad basin germenis nectar copiose fundens.

STAMINA: FILAMENTA 10, erecta, subulata, purpurascens; ANTHERÆ ovales, compressæ, purpureæ; POLLEN aurantiacum, fig. 3.

PISTILLUM: GERMEN inferum; STYLI duo, subulati, erecti, longitudine flaminum, inferne flavescens, superne rubelli; STIGMATA duo capitata, villosa, rubra, fig. 4.

ROOT perennial, fibrous, of a brown colour.

STALKS numerous, procumbent, creeping, round, below naked, brown, often hanging down like strings from stones and rocks.

LEAVES alternately opposite, those on the flowering stalks closely imbricated, uniting nearly at the base, inversely ovate, concave, somewhat fleshy, fringed on the edges, tops flattened, callous and whitish, those on the young shoots more remotely situated.

FLOWERS on the tops of the stalks, sessile, solitary, large, showy, at first of a lively purple colour, finally blueish.

CALYX: a PERIANTHIUM of five leaves, which are ovate, edged with hairs, coloured, unequal, and very like those of the stalk, fig. 1.

COROLLA: 5 roundish PETALS, furnished with short claws, fig. 2.

NECTARY: a glandular substance at the base of the germen, affording much honey.

STAMINA: 10 Filaments, upright, tapering, purplish; ANTHERÆ oval, flattened, purple; POLLEN orange-coloured, fig. 3.

PISTILLUM: GERMEN beneath; STYLES two, tapering, upright, the length of the stamina, below yellowish, above bright red; STIGMATA two little villous red heads, fig. 4.

This species of Saxifrage, the only British one with purple flowers, is found plentifully on the summits of our highest mountains in England, Scotland, and Wales; we have observed it both on Ingleborough and Pennigent in Yorkshire, Mr. LIGHTFOOT on most of the Scotch mountains, and Mr. LHWYD abundantly on Snowdon.

It flowers much earlier than any of the genus, empurpling and enlivening the barren rocks (from which in some situations it hangs pendent to a great length) in April and May; in our gardens near London it blows usually in February and March; when the blossoms first expand they are of a bright purple colour, as they go off they incline to blue; this variation in their colour has induced some Botanists to make two species of it. It is said to vary with white flowers; we do not know that any such variety has been seen in this country.

The plant itself is very liable to vary from situation; when it grows exposed, the whole plant assumes a more compact appearance, the stalks are shorter, the leaves more closely imbricated, the flowers more numerous; this is its natural, and most beautiful state; in shady and more sheltered situations, the stalks shoot to a greater length, the leaves are placed at greater intervals, assume a greener hue, and resemble somewhat those of wild Thyme, in such situations few or no flowers are produced.

No mention is made of this plant by GERARD, or PARKINSON; in their time botanical researches had not been pushed to the extent they have since been; RICHARDSON and LHWYD, in the time of RAY, were active in exploring the mountains of Yorkshire and Wales, it was reserved for Mr. LIGHTFOOT to penetrate further North, to visit the untrodden heights of Caledonia, and gather it.

'Tis only within a few years that this beautiful native\* has been cultivated as an ornamental plant; small pots of it are now regularly brought to Covent-Garden-Market, the latter end of February and beginning of March, where they are sold from one to two shillings each.

Though it be a hardy plant, and of ready growth, as most of the Saxifrages are, yet it will not flower in perfection, as we have found by long experience, but under certain management, which is this, about the latter end of March divide a plant, which has filled a pot the preceding year, into many small pieces, taking care that each has a few fibres to it, plant about six of these in the middle of a small pot, filled with a composition of loam and rotten leaves, or bog earth, in equal parts, water them and set them by in a shady place for about a week, then plunge them in an open border, exposed not more than one half of the day to the sun; in dry weather be particularly careful to water them once a day, they require no other attention, but this they will not dispense with; the ensuing spring, each pot will be covered with a profusion of bloom; to continue them in perfection they must be treated thus yearly.

Mr. MILLER recommends a shady situation for this plant, which we have ever found injurious, the shelter of a green-house quickly draws it up and spoils it; it is indeed one of those plants which revolts at all tender treatment.

One of its leaves when magnified becomes a curious object, bearing a great resemblance to those of some of the Fig-Marigolds.

\* Pulchræ plantæ elegantiam difficile est aut verbis exprimere aut penecillo. Hall. Hist.





*Saxifraga oppositifolia.*

W. Edwards del.





*Stellaria uliginosa.*



# STELLARIA ULIGINOSA. BOG STICHWORT.

STELLARIA *Lin. Gen. Pl.* DECANDRIA TRIGYNIA.

*Cal.* 5-phyllus, patens. *Petala* 5 bipartita. *Caps.* 1-locularis, polysperma.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

STELLARIA *uliginosa* foliis ovato-lanceolatis apice callofis, floribus subpaniculatis lateralibus, petalis calyce brevioribus.

STELLARIA *graminea* var. *γ.* *Lin. Fl. Suec.* n. 393. *Huds. Fl. Angl. ed.* 2. p. 190.

STELLARIA *uliginosa.* *Schreb. Spic.*

ALSINE foliis ellipticis, acuminatis; petalis bipartitis. *Hall. Enum.* p. 385. *Boehm. Lips.* p. 153. n. 374. *Alfina* foliis lanceolatis, petalis bipartitis; petiolis unifloris. *Hall. Hist.* n. 881.

STELLARIA (*hypericifolia*) foliis ovato-lanceolatis, integerrimis; pedunculis solitariis. *Wiggers Prim. Holf.* p. 34. n. 364. *Alfina Hyperici folio.* *Vaill. Par.* p. 9.

STELLARIA (*aquatica*) foliis lanceolatis; petalis bipartitis, calycem longitudine æquantibus. *Pollich. Pal.* p. 429. n. 442.

STELLARIA (*Dilleniana*) foliis lanceolatis integerrimis, caule procumbente. *Leers Herborn.* p. 107. n. 331.

ALSINE *aquatica* folio gratiolæ flore stellato. *Dill. Catal. Gifs.* 38, et *App.* 39.

ALSINE *aquatica media.* *Baub. Pin.* 251.

ALSINE *fontana.* *Tabern. icon.* 712.

ALSINE *longifolia uliginosis* proveniens locis, *J. B. III.* 365. *Raii Syn.* p. 347. Long-leav'd Water Chickweed.

RADIX annua, fibrillosa, terræ arcte inhærens.

CAULES plures, palmares ad pedales, diffusi, decumbentes, tetragoni, læves, tenues, flaccidi, disrupti filosi, parum ramosi.

RAMI tenuissimi, furculiformes, sparsi, nonnunquam apice floriferi.

FOLIA opposita, sessilia, connata, ultra, semunciam longa, duas tresve lineas lata, subsecunda, subconniventia, ovato-lanceolata, acuta, basi ciliata, apice fusco callosa, ad latera subreflexa, tenera, lævia, pallide viridia.

FLORES laterales, raro terminales, pedunculati, parvi, albi, diametro duarum linearum.

PEDUNCULI ex axillis foliorum, solitarii, bini, terni, simplices aut compositi, ut plures pedicelli ex uno pedunculo communi egrediantur, semipollicares ad pollicares, superne incrassati, florigeri erecti, fructigeri deflexi, bracteis duabus, lanceolato-setaceis, membranaceis, albidis ad basin et divisiones instructi.

CALYX: PERIANTHIUM persistens, pentaphyllum, laciniis patentibus, lanceolatis, acutis, lævibus, viridibus, triis striis obsolete lineatis, *fig. 1.*

COROLLA: PETALA quinque, calyce breviora, approximata, laciniis calycinis incumbentia, stellatim expansa, ad basin usque bipartita, laciniis divaricatis, obovatis, albis, *fig. 2.*

STAMINA: FILAMENTA 10, subulata, alba, alterna breviora; ANTHERÆ subrotundæ, flavescentes, *fig. 3.*

PISTILLUM: GERMEN subrotundum, glandulis quinque cinctum; STYLI tres, capillares, patentes, STIGMATA obtusa, alba, *fig. 4.*

PERICARPIUM: CAPSULA ovata, unilocularis, sex-valvis, *fig. 5.*

SEMINA plurima, minuta, subrotunda, compressa, rugosa, rufa, *fig. 6.*

ROOT annual, finely fibred, sticking strongly to the earth.

STALKS numerous, from a hand's-breadth to a foot in length, loosely spread, decumbent, four-cornered, smooth, slender, weak, when broken asunder stringy, a little branched.

BRANCHES very slender, shoot-like, placed irregularly on the stalk, sometimes flowering at top.

LEAVES opposite, sessile, united at bottom, above half an inch in length and two or three lines in breadth, frequently growing to one side of the stalk, and bending towards each other so as almost to touch at the points, ovato-lanceolate, pointed, fringed at the base, tips brown and callous, turned back a little at the sides, tender, smooth, and of a pale green colour.

FLOWERS lateral, seldom terminal, standing on footstalks, small, white, about two lines in diameter.

FLOWER-STALKS proceeding from the bosoms of the leaves, singly, or in two's and three's, simple or compound; several partial flower-stalks proceeding from one common peduncle, half an inch to an inch in length, thickened above, the flower-bearing ones upright, the fruit-bearing ones turned downwards, furnished with two very minute, pointed, membranous whitish floral leaves at the base and divisions.

CALYX: a PERIANTHIUM of five leaves, permanent, the segments spreading, lanceolate, pointed, smooth, green, marked with three lines faintly prominent, *fig. 1.*

COROLLA: five PETALS shorter than the Calyx, approximating, lying on the segments of the Calyx, expanded in a star-like form, divided quite to the base, the segments spreading wide asunder, inversely ovate and white, *fig. 2.*

STAMINA: ten FILAMENTS, tapering, white, the alternate ones shortest; ANTHERÆ nearly round and yellowish, *fig. 3.*

PISTILLUM: GERMEN roundish, surrounded by five glands; STYLES three, very fine, and spreading; STIGMATA obtuse and white, *fig. 4.*

SEED-VESSEL: an ovate CAPSULE, of one cavity, and six valves, *fig. 5.*

SEEDS numerous, minute, roundish, flattened, wrinkled, of a reddish brown colour, *fig. 6.*



Most of the old Botanists regarded this plant as a distinct species, and the observations of the moderns have shewn that their opinion was well founded; they considered it indeed as an *Alfine*, and this also was a further proof of their discernment, for the *Alfine media* and our plant are undoubtedly of the same genus, inasmuch as they agree exactly in the parts of fructification, number of stamina excepted, and that is found to vary in the *Alfine media*: the *Cerastium semidecandrum* is admitted to be of the same genus as the others, though it has only five stamina; the *Alfine* therefore should be removed to *Stellaria*, and called *Stellaria Alfine*; the *Cerastium aquaticum* ought also to be placed with them, as it agrees better with the character of a *Stellaria*, than a *Cerastium*, especially in its seed-vessel, a part which is of the first consequence in determining the genus, and which LINNÆUS has not sufficiently attended to.

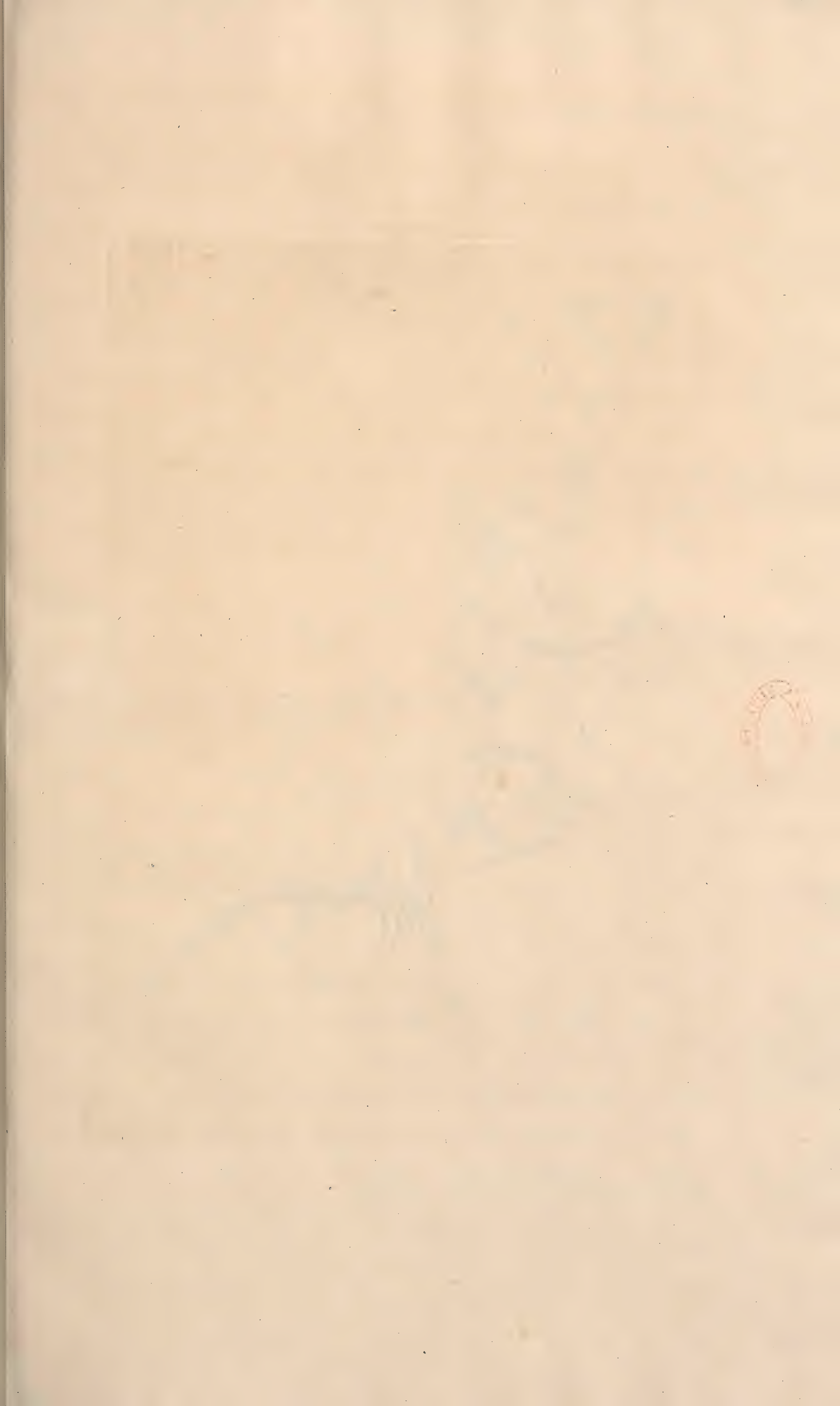
LINNÆUS, in general too cautious in making species, considers our plant as a variety of *Stellaria graminea*; but as it differs from that plant in so many essential points, we conclude he never had an opportunity of fairly examining and contrasting the two in a living state: DILLENIUS has minutely described it, especially the flowers, but neither he or any other author that we are acquainted with, has noticed the callous tips of the leaves, though very conspicuous, nor the particular situation of the leaves respecting the stalk and each other, (see the description.)—DOODY, as appears from RAY's *Synopsis*, had the merit of observing that the flowers were produced *ex alis foliorum*, which is certainly one of the most striking characters of the species, but this is not produced in the common way; the fact is, the flowers would be terminal, did not a new kind of shoot or furculus, rather than a continuation of the stem, proceed from the panicle.

The petals being so deeply divided, and spreading so far asunder, has occasioned some mistakes in the descriptions which authors have given of the flowers: J. BAUHINE describes them with ten petals; VAILLANT on the contrary, with five, and those undivided; this author, assuming to himself a superior degree of discernment, complains that MORISON and RAY had described them as divided almost to the base; a more minute inspection would have taught him that they were not such superficial observers as he imagined.

It is a very common plant in wet springy meadows, and especially on the edges of the ditches, which intersect such meadows, but cannot be said to be truly a bog plant, like *Anagallis tenella*, or *Drosera*.

It flowers from *June* to *August*.









*Cerastium arvense.*



# CERASTIUM ARVENSE. CORN CERASTIUM, or MOUSE-EAR CHICKWEED.

CERASTIUM *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

*Cal.* 5-phyllus. *Petala* bifida. *Caps.* unilocularis apice dehiscens.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *arvense* foliis lineari-lanceolatis, obtusis, glabris; corollis calyce majoribus. *Lin. Syst. Vegetab.* p. 436. *Sp. Pl.* p. 628. *Fl. Suec.* n. 417.

MYOSOTIS foliis linearibus, lanceolatis, petalis calyce duplo longioribus. *Hall. Hist.* 889.

MYOSOTIS arvensis hirsuta flore majore. *Vaill. Parif.* 141. t. 30. f. 4.

CENTUNCULUS arvensis hirsutus flore majore. *Baub. Pin.* 210. *Raii Syn.* 348. Long-leaved rough Chickweed with a large flower.

CARYOPHYLLUS holosteus. *Ger. emac.* 595. arvensis hirsutus. *Parkins.* 1339. *Huds. Fl. Angl.* ed. 2. p. 201. *Lightfoot Fl. Scot.* p. 241.

RADIX perennis, filamentoso-fibrosa, repens.

CAULES *steriles* plurimi, palmares et ultra, laxe cespitosi, inferne prostrati, sæpius repentes, postea erecti, basi subramosi, deorsum pilosi; caulis florifer sæpe duplo altior, validior; strictus, superne ramosus, pilis minutis, horizontalibus, glandulosis subviscosus, omnes teretes, geniculati, ad geniculos sensim subincrassati.

FOLIA faturate viridia, sessilia, opposita, subconnata, patentia, subreflexa, lineari-lanceolata, acutiuscula, supra pilosiuscula, pilis sursum spectantibus, subtus lævia, margine ciliata, ciliis recurvis.

PEDUNCULI e dichotomia caulis, solitarii, binati, ternati, erecti, uniflori; *stipulis* binis, oppositis, ovatis, acutis, concavis, margine membranaceis.

FLORES albi, terminales, erecti, magni.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis lanceolatis, acutis, subconcavis, pilosiusculis, margine membranaceis, *fig.* 1.

COROLLA: PETALA 5, cordiformia, patentia, versus marginem parum reflexa, ad medium fere bifida, tenera, alba, lineis hyalinis radiatim striata, calyce duplo longiora, *fig.* 2.

STAMINA: FILAMENTA decem, filiformi-subulata, corolla breviora, alterna breviora; ANTHERÆ ovales, luteæ, *fig.* 3.

PISTILLUM: GERMEN globosum; STYLI quinque, capillares, subreflexi; STIGMATA obtusa, *fig.* 4.

PERICARPIUM: CAPSULA ovato-cylindracea, calyce longior, ore decemdentato, *fig.* 5.

SEMINA plurima, rufescentia, *fig.* 6.

ROOT perennial, with thready fibres, creeping.

STALKS which bear no flowers, numerous, a hand's-breadth or more in length, forming a kind of loose turf, below prostrate and mostly creeping, afterwards upright, somewhat branched at the base, hairy, hairs turned downward, the flowering stem often twice as high, stronger, straight, branched above, somewhat viscid with minute glandular hairs, both kinds round, jointed, thickened gradually towards the joints.

LEAVES deep green, sessile, opposite, somewhat united at bottom, spreading, frequently turned back, betwixt linear and lanceolate, rather pointed, hairy on the upper side, hairs pointing upwards, on the under side smooth, edge fringed with hairs crooked backwards.

FLOWER-STALKS from the forking of the stalk, growing singly, or divided into two's or three's, upright, one-flowered, *stipulæ* in pairs, opposite, ovate, acute, concave, membranous on the edge.

FLOWERS white, terminal, upright, and large.

CALYX: a PERIANTHIUM of five leaves, permanent, lanceolate, pointed, a little hollow, somewhat hairy and membranous on the edge, *fig.* 1.

COROLLA: 5 PETALS, heart-shaped, spreading, turned back a little towards the edge, divided almost to the middle into two segments, tender, white, striated with transparent lines in the form of rays, twice the length of the calyx, *fig.* 2.

STAMINA: ten FILAMENTS, slightly tapering, shorter than the corolla, the alternate ones shortest; ANTHERÆ oval and yellow, *fig.* 3.

PISTILLUM: GERMEN globular; STYLES five, very slender and somewhat reflexed; STIGMATA blunt, *fig.* 4.

SEED-VESSEL: a CAPSULE betwixt ovate and cylindrical, longer than the calyx, the mouth having ten teeth, *fig.* 5.

SEEDS numerous, reddish brown, *fig.* 6.

A rare plant in the neighbourhood of London, not uncommon about Croydon, and very plentiful about Bury in Suffolk; affects dry situations; is found on sand banks, walls, and in corn-fields; flowers with us early in June.

Is distinguished from all the other *Cerastiums* growing with us, by its large flowers, deep green leaves, which appear smooth at a distance, and powerfully creeping roots and stalks.

A few roots of this species planted on a bank in my garden, Lambeth-Marsh, covered with stones in imitation of rock-work, soon increased so as wholly to overspread a great part of it, and in a few years penetrating through to the north side of the bank, supplanted the *Saxifraga hypnoides*, with a fine coat of which it was on that side thickly covered.—We have seen it penetrate the mortar of a brick wall, and have found that there is scarcely a plant of its size it will not overcome. We mention these circumstances, not only as they tend to illustrate a part of the æconomy of the plant, but that persons may be on their guard how they introduce it, or such like encroaching plants, on any kind of rock-work they do not wish them wholly to cover.

It varies in the smoothness of its leaves.



## CERASTIUM PUMILUM.

## DWARF CERASTIUM.

CERASTIUM. *Linn. Gen. Pl.* DECANDRIA PENTAGYNIA.*Cal.* 5-phyllus. *Petala* 2-fida. *Capf.* 1-ocularis, apice dehiscens.*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.CERASTIUM *pumilum* floribus pentandris, petalis bifidis longitudine calycis, capsula calyce duplo longiore.

To the lyncean eye of Mr. DICKSON we are indebted for the discovery of this species of *Cerastium*, so very nearly related to the *semidecandrum*, that if the two plants had not been seen wild on the same bank, they might long have been regarded as one and the same species; having raised it from seeds, observed it in all its states, and compared it, as it has proceeded in its growth, with the *Cerastium semidecandrum*, we do not hesitate to publish it as a species perfectly distinct. For want of a more appropriate name, we have assigned it that of *pumilum*.

It agrees with the *Cerastium semidecandrum* in being about the same size, usually a little smaller, having nearly the same habit, the same number of stamina, and in being also an annual; but differs from it in the following particulars.

The whole plant, but more especially the stalks and leaves, are more evidently hairy, being indeed perfectly hirsute, nearly as much so as in the *vulgatum*; the flowers are considerably larger, the petals being nearly twice the size, fully as long, or rather longer than the calyx, of course more fleshy, more conspicuous also from their superior whiteness, regularly bifid or divided down one third, so that they greatly resemble those of the *vulgatum*, *viscosum*, and most others of the same genus; the seed-vessels are much longer, and more tapering, for the most part twice the length of the calyx, but not always so; the character most to be depended on consists in the form, length, and division of the petals; its superior hairiness is also a good *prima facie* character; the hairs on the branches, it is to be observed, are equally viscous as in the *semidecandrum*; the seeds in the *pumilum* are larger, of a darker brown colour, and rougher.

Mr. DICKSON found this species, which may perhaps be more common than we are aware, on dry banks near Croydon.

It begins to flower as early as February and March, rather sooner than the *semidecandrum*, and ripens its seeds in May.

Slugs and snails are so extremely fond of the plant, that it is with great difficulty kept where they abound.

*Partes Fructificationis.*

Fig. 1. Calycis foliolium auct.

2. Petalum.

3. Stamina cum pistillo.

4. Pistillum.

5. Capsula magnit. nat.

6. Semen magnit. nat.

7. Semen auct.

*Parts of the Fructification.*

Fig. 1. One of the leaves of the Calyx magnified.

2. A Petal.

3. The Stamina with the Pistillum.

4. The Pistillum.

5. A Capsule of its natural size.

6. A Seed of its natural size.

7. The same magnified.





*Cerastium pumilum*



# CERASTIUM TETRANDRUM. TETRANDROUS CERASTIUM, or MOUSE-EAR CHICKWEED.

CERASTIUM. *Linn. Gen. Pl.* DECANDRIA PENTAGYNIA.

*Cal.* 5-phyllus. *Petala* 2-fida, *Capf.* 1-locularis apice dehiscens.

*Raii Syn.* HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *tetrandrum* caule diffuso dichotomo, floribus plerisque tetrandris, capsula calycem vix superante.

SAGINA *cerastoides* caule diffuso dichotomo, foliis spatulatis obovatisve recurvis, pedunculis fructiferis reflexis. *Smith. Transf. Linn. Soc. v. 2. p. 343.*

RADIX annua, fibrosa.

CAULES plures, palmaris et ultra, diffusi, teretes, villosi, subviscidi, purpurascens, dichotomi, ramosissimi.

FOLIA opposita, sessilia, subconnata, patenti-recurvata, integerrima, hirsutula; subtus pallidiora et minus hirsuta, inferiora ovato-lanceolata, ad basin angustiora, superiora ovata, acuta.

FLORES tetrandri et pentandri in eadem planta, plerique vero tetrandri, solitarii, e dichotomia caulis, pedunculati.

PEDUNCULI filiformes, viscidi, ad basin tumidi, post florescentiam reflexi, maturato semine suberecti.

CALYX: PERIANTHIUM 4-5 phyllum, persistens, foliolis lanceolatis, acuminatis, hirsutulis, viscidis, duobus paulo angustioribus, margine membranaceis, *fig. 1.*

COROLLA PETALA 4-5, calyce breviora, alba, nitidula, unguibus flavescens, striata, bifida, lobis rectis, acutiusculis, *fig. 2.*

STAMINA: FILAMENTA 4-5, subulata, alba, longitudine stylorum; ANTHERÆ lutescentes, *fig. 3.*

PISTILLUM: GERMEN turbinatum, læve, virens; STYLI 4-5, erecti, albi, villosuli; STIGMATA obtusa, *fig. 4.*

PERICARPIUM: CAPSULA oblonga, calyce paulo longior, 8-10 dentata, *fig. 5, 6.*

SEMINA plurima, minuta, fusca, *fig. 7, 8.*

ROOT annual, and fibrous.

STALKS numerous, about six inches in length, spreading on the ground, round, villous, with some viscosity, purplish, dichotomous, and very much branched.

LEAVES opposite, sessile, somewhat connate, spreading, bending back, perfectly entire, slightly hirsute, paler, and less hairy on the under side, the lowermost ovato-lanceolate, the uppermost ovate, and pointed.

FLOWERS tetrandrous and pentrandrous in the same plant, but mostly tetrandrous, solitary, from the fork of the stalk, on peduncles.

PEDUNCLES filiform, viscid, tumid at the base, when the flowering is over bent back, when the seed is ripened becoming upright.

CALYX: a PERIANTHIUM of four or five leaves, continuing, leaves lanceolate, acuminate, slightly hirsute, viscid, membranous on the edge, two of them somewhat narrower than the others, *fig. 1.*

COROLLA: PETALS four or five, shorter than the calyx, white, a little glossy, claws yellowish, striated, bifid, the lobes straight, a little pointed, *fig. 2.*

STAMINA: FILAMENTS four or five, subulate, white, the length of the styles; ANTHERÆ yellowish, *fig. 3.*

PISTILLUM: GERMEN top-shaped, smooth, greenish; STYLES four or five, upright, white, somewhat villous; STIGMATA blunt, *fig. 4.*

SEED-VESSEL: an oblong CAPSULE, a little longer than the calyx, having eight or ten teeth, *fig. 5, 6.*

SEEDS numerous, minute, and brown, *fig. 7, 8.*

As the present plant, in its general habit and structure, so obviously proclaims itself to be a *Cerastium*, we were surprised to find that the President of the Linnæan Society had regarded it as a *Sagina*, a genus to which it has very little affinity, except in the number of its petals, stamens, and styles; supposing it to be always found, as he asserts it is to be, with *floribus quadrifidis*, or, as would have been perhaps more scientifically expressed, *floribus tetrapetalis*; but admitting the fact to be so, which it is not in reality, a difference merely in the number of its parts surely would not make it the less a *Cerastium*; if it would, the *semidecandrum* and *pumilum*, already figured in this work, would not be such, as they have only half their proper number of stamens: that the specimens which Dr. SMITH examined were all tetrandrous we readily believe, and have no doubt but we shall obtain equal credit when we assert, that in the living plant from whence our drawing was made, nearly the fourth part of the flowers were pentandrous; in the form and structure of the seed-vessel, a part which forms the striking character of a *Cerastium*, *vid. GÆRTNER*, our plant is not deficient, and the seeds (when magnified) correspond in form with all the others of the genus, *vid. fig. 8.*

The flowers of this plant expand, as the influence of the sun is more or less powerful, without any regard to the particular time of the day; after they have been prevented from opening by a wet cloudy day, we have seen them expand partially on the sun's shining on them so late as seven in the evening: its peduncles, as in *Alfine*, *Holosteæ*, and some others of the *Cerastiæ*, bend back when the flowering is over, and become erect as the seed ripens.

Besides the difference in the number of its stamens, this plant differs from *semidecandrum* and *pumilum*, in being much larger, and more procumbent; in the latter character it differs wholly from *viscosum*, to which it has some affinity, in the breadth of its foliage; the mouth of the capsule opens usually with eight teeth, the flower, which has five petals, is found with ten; those teeth, when magnified, appear somewhat truncated, and their edges turn back, *vid. fig. 6.*

Mr. DICKSON, the fortunate discoverer of *Cerastiæ*, found this plant growing abundantly on the Island of Inch-Keith in the Firth of Forth, and on the sea-shore below Preston-Pans; it is not likely that this species, or the *pumilum*, should be confined within the narrow limits of growth which we at present assign them; as the several species are more minutely attended to, they will (we may venture to predict) be found abundantly elsewhere.

It flowers in May and June, and grows readily from seeds, which should be sown in Autumn.





*Cerastium tetrandrum*.

S. Edwards del. E. Sanford sculp.





*Glaucium corniculatum.*



*Chelidonium*  
**GLAUCIUM CORNICULATUM. RED HORNED-POPPY.**

CHELIDONIUM. *Linn. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 4-petala. *Cal.* 2-phyllus. *Siliqua* 1-locularis, linearis.

*Raii Syn. Gen.* 22. *Herbæ vasculiferæ flore tetrapetalo anomalæ.*

CHELIDONIUM *corniculatum* pedunculis unifloris, foliis sessilibus pinnatifidis, caule hispido, *Linn. Syst. Veg. ed. 14. Murr. p. 489. Sp. Pl. ed. 3. p. 724. Hudf. Fl. Angl. ed. 2. p. 229.*

GLAUCIUM hirsutum flore phœniceo. *Tourn. Inst.* 254.

PAPAVER corniculatum phœniceum hirsutum. *Baub. Pin.* 171.

PAPAVER corniculatum rubrum. *Dod. Pempt.* 449.

PAPAVER cornutum phœniceo flore. *Clus. Hist.* 2. p. xci.

PAPAVER cornutum florè rubro. *Ger. Herb. p. 294. f. 2. emac. 367. f. 2. Red-horned Poppey.* also *fig. 3, in Ger. Herb.*

RADIX annua, fusiformis, parum fibrosa, flavescens.

CAULIS pedalis ad sesquipedalem, erectiusculus, teres, leviter sulcatus, pilis longis distantibus hispidus, pallide virens, ramosus, rami cauli fimiles, divaricato-patuli.

FOLIA candicantia, radicalia in orbem posita, erectiuscula, petiolata, cætera sessilia, semiamplexantia, alterna, remota, sinuato-pinnatifida, utrinque pilis uti caulis hispida; lacinia in radicalibus alternæ; extimæ confluentes, in superioribus caulinis oppositæ, dentatæ, dentibus obtusiusculis, mucronatis, nunc remotis, nunc approximatis, ad apices plerumque ternis.

FLORES solitarii, magni, rubro-crocei, erecti, caduci.

PEDUNCULI terminales, foliis oppositi, breves, ad apices dilatati, cauli fimiles.

CALYX: PERIANTHIUM pedunculo brevius, diphyllum, hirsutissimum, foliolis ovato-oblongis, concavis, caducis.

COROLLA: PETALA 4, subrotunda, inæqualia, basi angustiora, plana, margine eroso-crenata, ad basin macula oblonga nigra notata, *fig. 1.*

STAMINA: FILAMENTA 15 circiter, planiuscula, corolla breviora: ANTHERÆ oblongæ, obtusæ, compressæ, erectæ, didymæ, pallide aurantiacæ, *fig. 2.*

PISTILLUM: GERMEN cylindraceum, sericeo-tomentosum, longitudine staminum; STYLUS nullus; STIGMA capitatum, crassum, bifidum, viride, *fig. 3.*

PERICARPIUM: SILIQUA cylindracea, stricta, subcompressa, uncias circiter 8 longa, pilis appressis scabriuscula, stigmate bilabiato terminata, bivalvis.

SEMINA plurima, nigricantia, subreniformia, pulchre reticulata, dissepimento spongioso nidulantia.

ROOT annual, spindle-shaped, slightly fibrous, yellowish.

STALK a foot or a foot and a half in height, somewhat upright, round, slightly grooved, covered with long distant hairs, of a pale green colour, branched, branches like the stalk, spreading widely.

LEAVES whitish, those next the root placed circularly, somewhat upright, standing on foot-stalks, the rest sessile, half embracing the stalk, alternate, remote, sinuated and pinnatifid, covered on both sides with hairs as on the stalk, the segments in the root-leaves alternate, the outermost ones confluent, in the upper stalk leaves opposite, toothed, teeth somewhat obtuse, terminating in a short point, sometimes remote, sometimes near each other, the tops having usually three.

FLOWERS growing singly, large, bright red, inclining to orange, upright, quickly falling.

FLOWER-STALKS terminal, opposite the leaves, short, dilated at top, like the stalk.

CALYX: a PERIANTHIUM, shorter than the flower-stalk, two leaved, very hairy, leaves ovato-oblong, quickly falling.

COROLLA: 4 PETALS, roundish, unequal in size, narrower at the base, the edge notched or knawed, the base marked with an oblong, black spot, *fig. 1.*

STAMINA: about fifteen FILAMENTS, a little flattened, shorter than the corolla; ANTHERÆ oblong, obtuse, flattened, erect, double, of a pale orange colour, *fig. 2.*

PISTILLUM: GERMEN cylindrical, covered with a silky down, length of the stamina; STYLE none; STIGMA forming a head, thick, bifid, and green, *fig. 3.*

SEED-VESSEL: a cylindrical POD, straight, somewhat flattened, about 8 inches long, roughish, with hairs pressed to it, terminated by the two-lip'd stigma, having two valves.

SEEDS numerous, blackish, somewhat kidney-shaped, beautifully reticulated, nestling in the spongy receptacle.

Most of the old Botanists regarded the *Horned-Poppy* as a *Papaver*: *TOURNEFORT* made it a distinct genus by the name of *Glaucium*: *LINNÆUS* united it with the *Chelidonium*, with which, in our humble opinion, it has less affinity than with *Papaver*; why he should not have followed *TOURNEFORT* in this instance, we see no good reason; surely the structure of the seed-vessel justifies the great founder of genera, in separating it from the other two; so have thought the most celebrated systematic Botanists of modern times; in particular, *HALLER*, *ADANSON*, *JUSSIEU*, and *SCOPOLI*; the latter observes, that if the fruit is not to be attended to in forming the generic character, neither should the *Poppy* be separated from the *Celandine*.

This ornamental species, distinguished by the colour of its flowers, its general roughness, and place of growth, and since *RAY*'s time discovered by Mr. *STILLINGFLEET* in the sandy corn-fields of some parts of Norfolk, is a well-known European plant, growing wild in corn-fields, by road sides, in Spain, France, and Germany; it flowers in June and July, and ripens its seed in August. *CLUSIUS* observes, that as the plant grows old it becomes smoother, and a smooth variety of it is mentioned by *C. BAUHINE*.

If this plant be once introduced to a garden, in which the soil is light and the situation dry, it will come up yearly from seeds spontaneously scattered.





*Cistus guthriei*

S. Edwards del. F. Snyder sculp.



# CISTUS GUTTATUS. SPOTTED-FLOWERED CISTUS.

CISTUS. *Linn. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 5-petala. *Cal.* 5-phyllus: foliolis duobus minoribus. *Capsula.*

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *guttatus* herbaceus exstipulatus, foliis oppositis lanceolatis trinerviis, racemis ebracteatis. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 499. *Mant.* 403.

CISTUS annuus, foliis radicalibus oppositis, lanceolatis trinerviis, ramiferis ternatis linearibus. *Sauv. Monsp.* 148.

CISTUS foliis oblongo-acuminatis non stipulatis caule florali racemoso. *Guett Stamp.* 2. *p.* 181. *Dalib. Parif.* 158.

CISTUS flore pallido punicante macula insignito. *C. B. Pin.* 465.

TUBERARIA minor Myconi. *Lugd.* 1099.

CISTUS annuus II. *Clus. Hist.* 1. *p.* 77.

CISTUS annuus flore maculato. *Ger. emac.* 1281. *f.* 19. Spotted annual Cistus.

CISTUS annuus flore guttato. Spotted annual Cistus. *Park. Tb.* *p.* 661.

HELIANTHEMUM flore maculoso. *Col. Ecphr.* II. 78. *t.* 77.

Tota planta gratum odorem spirat, prefertim flores.

RADIX annua.

CAULIS semipedalis ad pedalem, erectus, ramosus usque ad basin, teres, hirsutulus, viscosus.

FOLIA opposita, connata, inferiora lanceolata, obtusiuscula, punctis prominulis scabriuscula, trinervia, hirsutula, superiora lanceolato-linearia.

FLORES racemosi, pedunculati, lutei, caduci, bracteati, et ebracteati, idque in eodem racemo; Pedunculi teretes, viscosi, ante florescentiam nutantes, pendente florescentia erecti, perfecta florescentia reflexi, seminibus demissis iterum eriguntur.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis tribus majoribus ovatis, acutis, concavis, viscosis, hirsutis, glandulis atro-purpureis punctatis, perfecta florescentia convergentibus; duobus minoribus lanceolatis, ciliatis, patentibus, *fig.* 1.

COROLLA: PETALA quinque, obovata, lutea, macula purpurea ad basin notata, inæqualiter circumferrata, *fig.* 2.

STAMINA: FILAMENTA plurima; ANTHERÆ flavæ, *fig.* 3.

PISTILLUM: GERMEN subrotundum; STYLUS nullus; STIGMA magnum, flavum, villosum, *fig.* 4.

PERICARPIUM: CAPSULA trivalvis, valvis ovatis, concavis marginibus ad lentem ciliatis, *fig.* 5.

SEMINA plurima, minima, pallida, interno parieti valvarum per fila affixa, *fig.* 6.

The whole plant diffuses a pleasant odour, especially the flowers.

ROOT annual.

STALK from six inches to a foot in height, upright, branched quite to the bottom, round, slightly hairy, and viscid.

LEAVES opposite, connate, the lowermost lanceolate and somewhat blunt, the surface rough with little prominent points, three-ribbed, slightly hirsute, the uppermost lanceolato-linear.

FLOWERS growing in racemi, standing on foot-stalks, yellow, deciduous, with and without bractæ, and that on the same racemus; Peduncles round, viscous, drooping before the blossoms open, upright during their expansion, turning back again when the flowering is over, and again becoming upright on the shedding of the seed.

CALYX: a PERIANTHIUM of five leaves, continuing, the three larger leaves ovate, pointed, concave, viscous, hirsute, dotted with glands of a blackish purple colour, closing together when the flowering is over; the two smaller leaves lanceolate, edged with hairs, and spreading, *fig.* 1.

COROLLA: PETALS five, obovate, yellow, marked with a yellow spot at the base, the edge irregularly indented, *fig.* 2.

STAMINA: FILAMENTS numerous; ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN roundish; STYLE none; STIGMA large, yellow, and villous, *fig.* 4.

SEED-VESSEL: a CAPSULE of three valves, the valves ovate, concave, the edges fringed when magnified, *fig.* 5.

SEEDS numerous, very small, of a pale colour, affixed by threads to the inside of the valves, *fig.* 6.

This very distinct species of Cistus, is first enumerated as a British plant in RAY's *Synopsis*, where it is described on the authority of Dr. SHERARD, as growing in the Isle of Jersey, on the west side, near Grosnez-Castle; and is further mentioned, on the authority of Mr. BREWER, in Mr. HUDSON's *Flora Anglica*, as being found in the Isle of Man; in sandy pastures on Llech ddue, near Holyhead; in France, Spain, and Italy, it occurs more frequently.

Both this Cistus and the *salicifolius* are annuals, in which respect they differ from all the other British species; from each other they are distinguished by several characters, none of which are more obvious than the disproportionate size of their respective seed-vessels. Several peculiarities attend on this species, some of which have escaped the observations of authors; the spots on the petals have been generally noticed, they contribute to render the flowers a pretty ornament; on the lower part of each of the larger leaves of the calyx one perceives numerous black glands, interspersed among the hairs, visible to the naked eye, and very conspicuous when somewhat magnified; CLUSIUS, who found this plant in Spain, describes it as covered with a sort of glutinous exudation; we have not perceived much of this, but we have found the whole plant diffuse a most delightful fragrance, more especially the flowers, and flower cups; this odoriferous matter, we apprehend, chiefly resides in the black glands we have mentioned.

In the middle of summer, the usual time of its flowering, when the mornings are long, and the solar rays powerful, the petals of this species will frequently fall off before nine o'clock; towards Autumn, we have observed them continue till noon; immediately on their falling, the three larger leaves of the calyx close together over the stamina, and pistillum, and secure them from any injury they might be liable to sustain from the early loss of their more delicate covering.

This plant is propagated without difficulty, it produces abundance of seeds, which readily grow; sow them in a pot of earth, in the Autumn; guard the seedlings, which will be small, against injuries during the Winter, and your plants will flower early the ensuing Summer; should your autumnal crop fail, sow again in the Spring, your plants will flower in the Summer, but later.

Has been observed by authors to vary with flowers without spots.







## HELLEBORUS VIRIDIS.

## GREEN HELLEBORE.

HELLEBORUS. *Lin. Gen. Pl.* POLYANDRIA POLYGYNIA.*Cal.* o. *Petala* 5. f. plura. *Nectaria* bilabiata, tubulata, *Capsulae* polyspermæ, erectiusculæ.*Raii Syn. Gen.* 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.HELLEBORUS *viridis* caule bifido, ramis foliosis bifloris, foliis digitatis. *Lin. Syst. Vegetab.* p. 59. *Sp. Pl.* 784. *Scop. Carn. ed.* 2. n. 697. *Huds. Fl. Angl. ed.* 2. p. 245. *Lightf. Scot.* p. 297. *Jacq. Fl. Austr. v.* 2. t. 205.HELLEBORUS foliis multipartitis, serratis, caule paucifloro. *Hall. Hist. n.* 1192.HELLEBORUS niger hortensis flore viridi. *Baub. Pin.* 185.HELLEBORASTER minor, flore viridante. Bastard blacke Hellebor or Bearesfoote. *Parr.* 212.HELLEBORASTRUM Wilde blacke Hellebor. *Ger. Herb.* p. 825. f. 2. *emac.* p. 976. f. 2. *Raii Syn. ed.* 3. p. 271.VERATRUM nigrum II. *Dod. Pempt.* p. 385. f. 2.

RADIX perennis, ex fusco nigricans, novos furculos quotannis promens, plurimis fibris, majusculis capillata, fibris longis, radice ipsa pallidioribus, intus albicantibus, saporis amari, subacris, ingrati.

CAULIS subsolitarius, erectus, pedalis circiter, plerumque bifidus, subnudus, glaber, teretiusculus, inferne purpurascens; ramis patentibus, foliosis, subbifloris.

FOLIA digitata, inæqualiter fissa, laciniis oblongolanceolatis, acutis, argute serratis, venosis, obscure viridibus, lucidis; radicalia petiolata, multipartita, petiolo semitereti, sulcato; caulina ad divisiones ramorum pedunculorumque sessilia tri-quadri-quinquelobata.

FLORES mediæ magnitudinis, subnutantes, virides, subsuaveolentes.

PEDUNCULI subcompressi, rugosi.

CALYX nullus.

COROLLA: PETALA 5, ovata, obtusa, calyciformia, viridia, foliis pallidiora, intus venosa, persistentia.

NECTARIA circiter decem, luteo-virentia, inter petala et stamina, in orbem posita, erecta, tubulosa, pedunculata, ore obsolete bilabiato, crenato, *fig.* 2.STAMINA: FILAMENTA numerosa, nectariis duplo longiora, subulata, lutescentia; ANTHERÆ erectæ, ovales, pallidæ, *fig.* 1.PISTILLUM: GERMINA a duobus ad sex, raro plura, magna, oblonga, lævia; STYLI subulati, recurvati; STIGMATA obtusa, crassiuscula, *fig.* 3.

ROOT perennial, of a blackish brown colour, putting forth yearly new shoots, furnished with numerous large fibres, which are long, paler than the root itself, whitish within, of a bitter, somewhat acrid, and unpleasant taste.

STALK usually single, upright, about a foot in height, generally bifid, almost naked, smooth, nearly round, below purplish, branches spreading, leafy, supporting for the most part two flowers.

LEAVES fingered, unequally cloven, segments oblong-lanceolate, pointed, finely serrated, veiny, of a dull green and glossy, those next the root standing on footstalks, deeply divided into many segments, the footstalk convex on one side, flat on the other, and grooved; those of the stalk placed at the divisions of the branches and peduncles, sessile, three, four, or five lobed.

FLOWERS of a middling size, nodding somewhat, green, slightly odoriferous.

FLOWER-STALKS somewhat flattened and wrinkly.

CALYX none.

COROLLA: 5 PETALS, ovate, obtuse, calyx-like, green, paler than the leaves, veiny on the inside, continuing.

NECTARIES about ten, of a yellowish green colour, placed in a circle between the petals and stamina, upright, tubular, standing on footstalks, the mouth faintly two lip'd and notch'd, *fig.* 2.STAMINA: FILAMENTS numerous, twice the length of the nectaries, tapering, yellowish; ANTHERÆ upright, oval, of a pale colour, *fig.* 1.PISTILLUM: GERMINA from two to six, rarely more, large, oblong, smooth; STYLES tapering, bending back; STIGMATA blunt, thickish, *fig.* 3.

The *Helleborus viridis*, so called from the green colour of its flowers, is found sparingly in the neighbourhood of London, we have seen it wild only in one spot, a small wood near Finchley, where it was discovered by Mr. JACOB RAYER, a zealous and indefatigable labourer in the cause of Botany; in various other parts of the kingdom it is more common, but not generally so: with us it is usually found in woods and copses, especially such as have a moist stiff soil, which it particularly affects, and out of which it will not thrive; in different parts of Germany it is said to grow in open mountainous situations, and where, if we may judge from Prof. JACQUIN's figure, it is less luxuriant than here.

It begins to flower in February, and continues in blossom through March and part of April; when favourably situated it produces seeds in abundance.

C. BAUHINE observes, that its roots are by many used medicinally; their qualities are most probably the same as those of the *niger*, and *fætidus*, and hence there is little doubt but they may be safely substituted for those of the former, which is the true officinal plant: in fact they are so used in London. Mr. BABINGTON, who so honourably fills the station of Apothecary to Guy's-Hospital, assures me that great quantities of its roots are yearly sent up from the country, and used for those of Black Hellebore; they are of a lighter colour, which is the most obvious character by which they are distinguishable: it is a fortunate circumstance that from their being possessed of similar qualities, the health of the public is not likely to receive any material injury from an imposition so gross, or from ignorance so unpardonable. VOGEL informs us in his *Materia Medica*, that the Francfort and Hambro' merchants frequently substitute the roots of the *Adonis vernalis* for those of the *Helleborus niger*. To the injuries arising from such impositions the public will be liable, while medical men are so inattentive to the few plants now used medicinally, and while the walking an Hospital, as it is called, and dissecting a dead body, shall be considered as all-sufficient to qualify for the most important profession in life.



# ANEMONE APENNINA. MOUNTAIN ANEMONE.

ANEMONE. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.

*Cal. o. Petala 6-9. Sem. plura.*

*Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.*

ANEMONE *apennina* feminibus acutis, foliolis incisis, petalis lanceolatis numerosis. *Linn. Syst. Veg. ed. 14. Murr. p. 511. Spec. Pl. ed. 3. p. 762. Hudson Fl. Angl. ed. 2. p. 237.*

ANEMONE *geranii robertiani* folio cærulea. *Bauh. Pin. 174.*

RANUNCULUS *nemorofus*, flore cæruleo, apennini montis. *Mentz. pug. t. 8. f. 2.*

ANEMONE *hortensis tenuifolia*, simplici flore 1. *Clus. Hist. 1. p. 254.*

ANEMONE *Geranifolia*. Storke's-bill Winde-flower. *Ger. Herb. p. 304. fig. 7.*

RANUNCULUS *nemorofus* flore purpureo cæruleo. The fingle purple wood Crowfoote. *Park. Tb. p. 325. Raii Syn. ed. 3. p. 259.*

RADIX perennis, tuberosa, crassitie minimi digiti, difformis, fusca.

CAULIS teres, glaber, purpurascens, uniflorus, spithamæus.

FOLIA radicalia ternata, petiolata, foliolis tripartitis, laciniis incisis, acutiusculis, utrinque pilosis; folium caulinum pedunculo subiectum (five involucrum) sessile, ter aut quaternatum, foliolis uti in folio radicali.

FLOS erectus, pallide cæruleus, odore suavi.

PEDUNCULUS subpalmaris, teres, pilosus, subpurpurascens, juxta florem viridis.

CALYX nullus.

COROLLA: PETALA 12 ad 15, in tres ordines disposita, oblonga, fig. 1.

STAMINA: FILAMENTA numerosa, inæqualia, capillaria, alba; ANTHERÆ erectæ, didymæ, flaventes, fig. 2.

PISTILLUM; GERMINA numerosa, in capitulum collecta; STYLI breves; STIGMATA obtusa, fig. 3.

SEMINA plurima, subovata, compressa, villosula, apice purpurea, stylum incurvum retinentia, haud infrequenter abortiva, fig. 4, 5.

ROOT perennial, tuberous, the thickness of the little finger, irregular in its shape, and of a brown colour.

STALK round, smooth, purplish, about a span high, supporting a single flower.

LEAVES from the root growing three together, standing on foot-stalks, small leaves tripartite, segments incised, somewhat pointed, hairy on both sides; the stalk-leaf placed under the peduncle (or involucrum) sessile, composed of three or four leaves, small leaves as in those from the root.

FLOWER upright, of a pale blue colour, and sweet smell.

FLOWER-STALK about a hand's breadth in length, round, hairy, purplish, close to the flower green.

CALYX wanting.

COROLLA: PETALS from 12 to 15, disposed in three rows, of an oblong shape, fig. 1.

STAMINA: FILAMENTS numerous, unequal, capillary, white; ANTHERÆ upright, double and yellowish, fig. 2.

PISTILLUM: GERMINA numerous, growing in a little head; STYLES short; STIGMATA blunt, fig. 3.

SEEDS numerous, somewhat ovate, flattened, slightly villous, purple at top, retaining the style, which is bent downward, fig. 4, 5. frequently proving abortive.

The *Anemone apennina* found undoubtedly wild on the Apennine mountains, grows plentifully in Lord SPENCER'S Park at Wimbledon, but in such situations as leaves room to doubt its being an original native of that spot; we should therefore have scarcely considered ourselves justified in figuring it, as an English plant, had it not been mentioned by several authors as growing wild in different parts of the kingdom, as near *Harrow on the Hill*, Mr. DUBOIS; in a wood near *Luton-Hoe* in Bedfordshire, Mr. TH. KNOWLTON; *Ray's Syn.* and near *Berkhampstead*, Herts, Mr. GOODALL; *With. Arr. ed. 2.*

This species flowers the beginning of April at the same time as the Wood Anemone, with which it has some affinity in its foliage, but differs widely in its root and flowers, the former is much thicker, and more knobby, the Petals of the latter much narrower, more than twice as numerous, and of a colour wholly different, being of a light pleasant purplish blue: when they first expand, the outer part of the Petals has a rich purplish tint, which is lost when the flowers have been some time exposed to the sun.

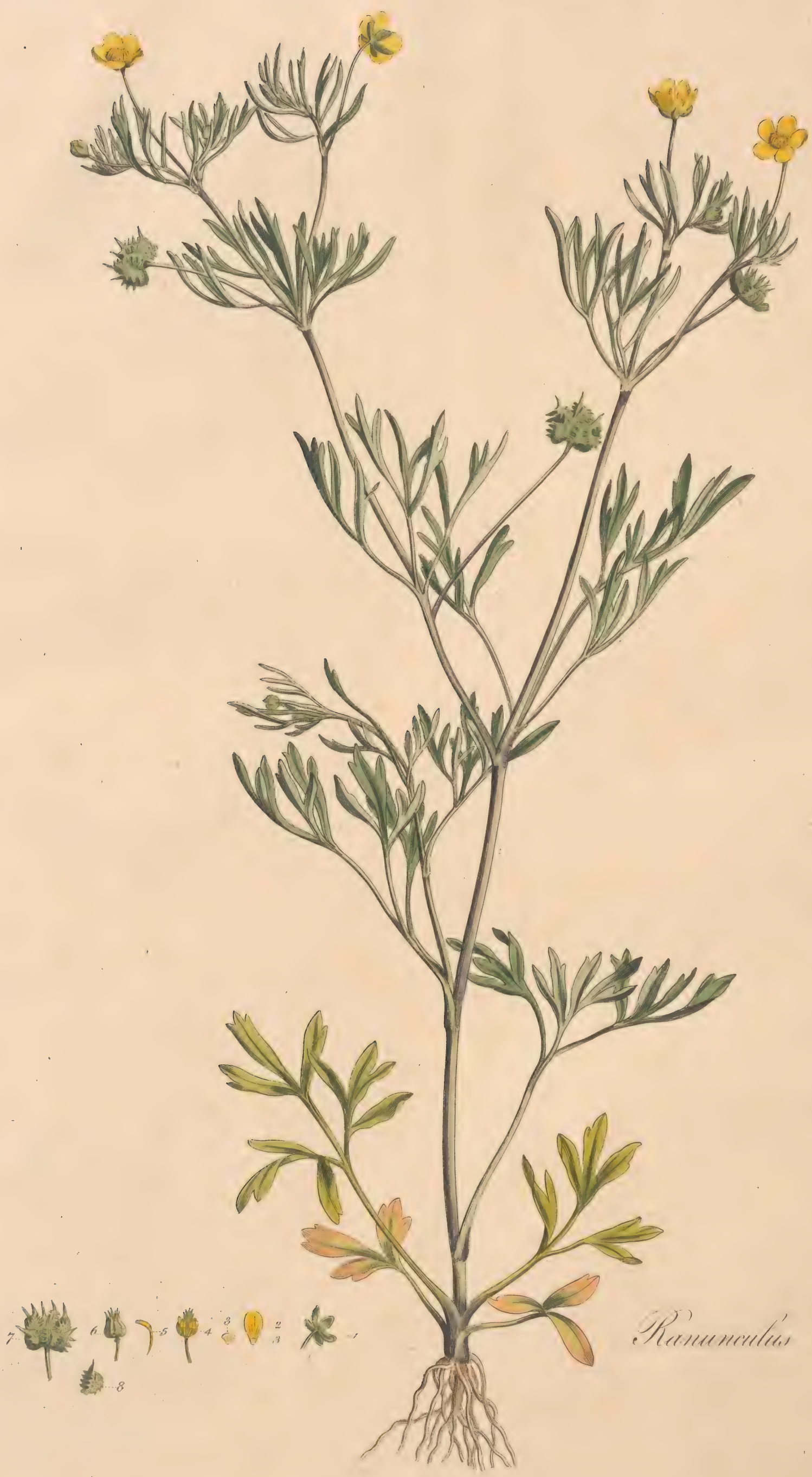
It is a very ornamental plant, suitable to decorate the flower garden, shrubbery, or wilderness, it delights in a pure air, and a light loamy soil; we never could make it succeed in our Garden at Lambeth-Marsh, but at Brompton it thrives greatly.





*Anemone apennina*





*Ranunculus arvensis*



RANUNCULUS ARVENSIS.

CORN CROWFOOT.

RANUNCULUS. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.  
*Cal.* 5-phyllus. *Petala* 5 intra unguem poro mellifero. *Sem.* nuda.  
*Raii Syn. Gen.* 15. HERBÆ SEMINE NUDO POLYSPERMÆ.  
RANUNCULUS *arvensis* feminibus aculeatis, foliis superioribus decompositis linearibus. *Linn. Syst. Veget. ed.* 14. *Murr. p.* 518. *Fl. Suec. ed.* 2. *p.* 197. *Sp. Pl. ed.* 3. v. 1. *p.* 780. *Hudf. Fl. Angl. ed.* 2. *p.* 242. *Lightf. Scot. v.* 1. *p.* 294. *Scop. Carn. v.* 1. *p.* 400. *ed.* 2.  
RANUNCULUS feminibus aculeatis, foliis tripartitis, lobis longe petiolatis, bi et tripartitis, acute incis. *Hall. Hist. n.* 1176.  
RANUNCULUS *arvensis echinatus.* *Baub. Pin. p.* 179.  
RANUNCULUS *arvorum.* *Park. Tb.* 328. *fig.* 4. *Crowfoote* of the ploughed fields. *Raii Syn. ed.* 3. *p.* 248. *Corn Crowfoot.*  
RANUNCULUS *arvorum.* *Crowfoote* of the fallowed field. *Ger. Herb. p.* 805. *emac. p.* 951. *f.* 3.

RADIX annua, simplex, fibrosa.	ROOT annual, simple, and fibrous.
CAULIS erectus, pedalis et ultra, teretiusculus, hinc subcompressus, inferne lævis, superne hirsutus, ramosissimus, ramis ante florescentiam subnutantibus.	STALK upright, a foot or more in height, roundish, flattened a little on one side, smooth below, slightly hirsute above, very much branched, branches nodding somewhat before flowering.
FOLIA pleraque alterna, superiora quædam opposita, subpetiolata, vaginantia, tripartita, laciniis trifidis, patentibus, lacinulis lanceolato-linearibus, bi-trifidis, acutiusculis, basi angustatis; radicalia petiolata, laciniis latioribus.	LEAVES mostly alternate, some of the upper ones opposite, short footstalk'd, sheathing, tripartite, the segments trifid, spreading, the smaller divisions lanceolato-linear, bifid or trifid, somewhat pointed and narrowed at the base; root leaves standing on long footstalks, segments broader.
FLORES flavi, minores.	FLOWERS yellow, rather small than large.
PEDUNCULI foliis oppositi, iis paulo longiores, patulo-erecti, teretes, pubescentes, solitarii, uniflori.	FLOWER-STALKS opposite to and somewhat longer than the leaves, betwixt upright and spreading, round, downy, single and one-flowered.
CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, lutescentibus, basi albidis, deciduis, <i>fig.</i> 1.	CALYX: a PERIANTHIUM of five small ovate leaves, concave, yellowish, whitish at the base, and deciduous, <i>fig.</i> 1.
COROLLA: PETALA 5, obovata, intus nitida, extus venosa, unguibus parvis, <i>fig.</i> 2.	COROLLA: 5 PETALS, inversely ovate, glossy within, veiny without, claws small, <i>fig.</i> 2.
NECTARIUM fovea in singulo petalo supra unguem, squamula emarginata clausa, <i>fig.</i> 3.	NECTARY: a small depression in each petal above the claw, covered by a small emarginate scale, <i>fig.</i> 3.
STAMINA: FILAMENTA circiter 16, corolla dimidio breviora; ANTHERÆ erectæ, oblongæ, obtusæ, didymæ, petalis concolores, <i>fig.</i> 4, 5.	STAMINA: about 16 FILAMENTS half the length of the corolla; ANTHERÆ upright, oblong, obtuse, double, the colour of the petal, <i>fig.</i> 4, 5.
PISTILLUM: GERMINA numerosa, in capitulum collecta; STIGMATA recurva, <i>fig.</i> 6.	PISTILLUM: GERMINA numerous, forming a small head; STIGMATA bent back, <i>fig.</i> 6.
SEMINA sex ad octo, echinata, <i>fig.</i> 7.	SEEDS about six or eight, prickly, <i>fig.</i> 7.

Of the genus *Ranunculus* there are several species which have prickly seeds, but no english one in which they are so conspicuously so as in the present; what a difference in size and form betwixt these and those of the *Ranunculus sceleratus*, plants evidently of the same genus!

The *Ranunculus arvensis* is a plant common to the corn-fields of most parts of Europe, but grows more abundantly in some soils than others; it flowers in May and June, and ripens its seeds in June and July. As these readily vegetate where they are spontaneously scattered, this species adds to the list of the weeds of our corn-fields, but not of the most formidable kind.





*Ranunculus Flammula*



RANUNCULUS FLAMMULA. SMALL SPEAR-WORT.

RANUNCULUS Linn. Gen. Pl. POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. Petala 5, intra ungues, poro mellifero. Sem. nuda.

Raii. Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *Flammula* foliis ovato-lanceolatis petiolatis caule declinato. Linn. Syft. Vegetab. ed. 14. Murr. p. 515. Sp. Pl. ed. 3. p. 772. Fl. Suec. n. 494. Scop. Fl. Carn. ed. 2. n. 682. Hudf. Angl. ed. 2. p. 240. Procumbent Crow-Foot or Spear-Wort. Lightfoot Scot. V. 1. p. 288. An lus-mòr, Ghlais-leun Gaulis.

RANUNCULUS foliis ovato-oblongis integerrimis, caule procumbente. Fl. Lapp. 325.

RANUNCULUS caule declinato foliis elliptico-lanceolatis subferratis. Hall. Hift. 1182.

RANUNCULUS longifolius palustris minor. Baub. Pin. 180.

RANUNCULUS flammeus minor. Ger. 814. fig. 2. the lesser Spear-Wort; also, Ranunculus flammeus ferrat, fig. 3. emac. p. 961. fig. 2, 3. Raii Syn. ed. 3. p. 250. the lesser Spear-Wort.

RANUNCULUS palustris flammeus minor five angustifolius. Park. Theat. p. 1214.

RADIX perennis, fibrosa, fibris simplicibus, majusculis.	ROOT perennial, fibrous, fibres simple, and rather large.
CAULES pedales et ultra, suberecti, flexuosi, parum compressi, subangulosi, pubescentes, purpureo-virides, ramosi, Rami breves, alterni, divaricati.	STALKS a foot high or more, somewhat upright, crooked, a little flattened, slightly angular, downy, of a purplish green colour, branched; Branches short, alternate, divaricating.
FOLIA radicalia ovato-lanceolata, utrinque acuta, longe petiolata, petiolo canaliculari compresso; caulina remota, oblongo-lanceolata, brevius petiolata, petiolis basi dilatatis, vaginantibus; suprema et floralia linearia; omnia lævia, nunc integerrima, nunc plus minus dentata, dentibus obtusis, inæqualibus, callosis, subfuscis.	LEAVES next the root ovato-lanceolate, pointed at each end, standing on long foot-stalks, the foot-stalk hollow on one side, and flattened, those of the stalk oblong-lanceolate, standing on shorter foot-stalks, which are dilated, and sheathing at the base; the uppermost, and those next the flowers, linear; all of them smooth, sometimes perfectly entire, sometimes more or less toothed, teeth obtuse, unequal, callous, and of a brownish colour.
FLORES in caulium ramorumque summitate, flavi.	FLOWERS on the top of the stalk and branches yellow.
CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, obtusis, villosiusculis, concavis, lutescentibus, deciduis, fig. 1.	CALYX: a PERIANTHIUM of five leaves, which are ovate, obtuse, slightly villous, concave, yellowish and deciduous, fig. 1.
COROLLA: PETALA 5, calyce triplo longiora, rotundato-subobcordata, patentia, parum concava, flava, superne splendentia, ungue brevissimo, fig. 2.	COROLLA: five PETALS, thrice as long as the calyx, roundish, and somewhat inversely heart-shaped, spreading, slightly concave, yellow, on the upper side glossy, claw very short, fig. 2.
NECTARIUM: foveola in ungue cujusvis petali.	NECTARY: a little cavity in the claw of each petal.
STAMINA: FILAMENTA plurima, ad 30, Corolla multo breviora; ANTHERÆ erectæ, oblongæ, didymæ, flavæ.	STAMINA: FILAMENTS numerous, to thirty, much shorter than the Corolla; ANTHERÆ upright, oblong, double, and yellow.
PISTILLUM: GERMINA numerosa in capitulum collecta; STYLI nulli; STIGMATA reflexa, fig. 3.	PISTILLUM: GERMINA numerous, forming a little head; STYLES none; STIGMATA bent back, fig. 3.

The *Ranunculus Flammula* grows plentifully with us in marshy places, and especially in the wet, and more boggy parts of heaths and commons, where it flowers from June to September.

The latter part of LINNÆUS's description of this plant, does not accord with the appearance it usually assumes with us, *caule adscendente*, which is the reverse of *declinato*, is indeed more applicable to it, not but the plant frequently grows nearly upright, as the old authors have represented it, though not so perfectly upright as the *Lingua*. Mr. HUDSON's english name of procumbent; as it implies a greater approximation to the earth, is still more objectionable; nor can much be said in favour of BAUHIN's name of *longifolius*, which some have adopted, as it gives an idea of a longer leaf than the plant has. The old Botanists called these two species of *Ranunculus Spear-Worts*, from the shape of their leaves, the great and lesser. Mr. RAY and Mr. LIGHTFOOT adopted those names, and we see no good reason why they should be discontinued.



The small Spear-Wort is one of those plants which is subject to great variation; DODONÆUS has observed, that in Holland, where it grows luxuriantly, it acquires the height of two cubits; in the cold barren soils of mountainous countries it is altogether as diminutive; in proportion to its strength, appears to be the uprightness of its growth; on the stony margins of lakes, HALLER observed it to be small and creeping, with linear leaves; as it receded from such situations, it became taller, and finally assumed its usual appearance: in this small and creeping state authors have considered it as a species; as such LINNÆUS has adopted it under the name of *reptans*, and Mr. LIGHTFOOT figured it on the frontispiece to the second volume of the *Flora Scotica*; but when the one described, and the other figured it as a species, they expressed their doubts of its being such: SCOPOLI also is of opinion that the *reptans* is no other than a variety, arising from soil and situation.

The leaves are usually toothed, especially the upper ones; sometimes they may be found entire, and sometimes more deeply indented, or serrated on their edges; the variety in this latter state the old authors describe, and figure as a species.

Instinct rarely fails in directing graminivorous animals to reject such herbs as would prove injurious to them, hence we seldom find this and the other acrid species of Crow-Foot eaten by cattle, but we know that under certain circumstances they will sometimes err, and become poisoned or diseased: GERARD says, "this plant is called *Banewort* by some, because it is dangerous and deadly for sheepe, and that if they feede of the same, it inflameth their livers, fretteth and blistereth their guts, and entrailles:" DODONÆUS, from whom GERARD probably borrows this account, reports the same, and that the plant takes its name in the Netherlands, from its pernicious effects on this harmless and useful race: HALLER quotes an author (*Le Noble lact* p. 12.) who says, that the livers of horses which had fed on this *Ranunculus* became rotten, and full of little bladders of water, as well as small animals resembling flounders; if the rot in sheep be occasioned by their feeding on any particular plant, and authors be not mistaken in what they say of this, none appears more likely to occasion it than the present one. Kine\* are said to feed on it without injury.

Acrid as this *Ranunculus* is, and injurious as it may be to the larger animals, we observed on the 9th of last July, 1791, small black larvæ feeding on its flower buds and stamina, in those little kind of dells on Barnes-Common, where the water had been dried up, and where grew *Callitriche*, *Peplis*, &c. we suspect they were the larvæ of some coleopterous insect; and on the under side of a leaf of another plant of the same species, we discovered a cluster of eggs, sixty-four in number, deposited most probably by some species of moth; the leaves of this and of every other species of *Ranunculus* growing wild, or in our gardens, are yearly disfigured, and in some seasons destroyed by a very minute intercutaneous larva or maggot, producing a small fly, which we have named *Musca ranunculi*, and of whose history it is our intention to give an account elsewhere; we have represented one of the leaves on the plant as it appears marked by this insect.

Mr. LIGHTFOOT informs us, that the *Ranunculus Flammula* is used in many parts of the highlands to raise blisters; for this purpose, in the island of Jura, and other parts on the coast, the leaves are well bruised in a mortar, and applied in one or more limpet shells to the parts where the blisters are to be raised.

\* Boves autem licet magnam comedunt hujus copiam ab hac affici non observavi. *Brugm.*









*Galeopsis versicolor*

Edwards del' Sanfem sculp



*cannabinæ.*

# GALEOPSIS VERSICOLOR. PARTICOLOURED GALEOPSIS.

GALEOPSIS Linn. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Cor. labium superius subcrenatum, fornicatum; inferius trifidum; faux utrinque dente obtusiusculo, concavo, acuto. Linn. Syst. Nat. ed. Gmel.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GALEOPSIS *versicolor* foliis ovatis acutis serratis, tubo floris calyce multo longiore.

GALEOPSIS *Tetrahit*. Linn. Sp. Pl. ed. 3. var. β

GALEOPSIS foliis ovato-lanceolatis, serratis, caule hirsuto flore calycis quadruplo. Hall. Hist. 269.

LAMIUM cannabinum aculeatum flore specioso luteo labiis purpureis. Pluk. Alm. 204. t. 41. f. 4.

CANNABIS spuria flore pallido labro purpureo elegante. Merr. Pin.

LAMIUM cannabinum folio, flore amplo luteo, labio purpureo. Raii Syn. ed. 3. p. 241. Fair-Flowered Nettle Hemp, or rather Hemp-Leaved Dead-Nettle with a particoloured flower.

RADIX annua.

CAULIS sesquipedalis et ultra, erectus, ramosissimus, obtuse tetragonus, hirsutus, ad genicula incrassatus.

RAMI alterne oppositi.

FOLIA caulina ovata, acuta, ramorum ovato-lanceolata, opposita, petiolata, subacuminata, venosa, superne pilis mollibus hirsutula, inferne nudiuscula, nervo medio venisque exceptis, serrata, dentibus versus basin sensim minoribus.

PETIOLI hirsuti.

FLORES magni, speciosi, versicolores, sessiles, verticillati, verticillis multifloris, summis subcontiguus.

CALYX: PERIANTHIUM monophyllum, tubulatum, nervosum, hirsutum, quinque-dentatum, dentibus longitudine calycis, subæqualibus, aristatis, pungentibus, ore ciliato, ciliis demum intus convergentibus, tubus seminibus maturiscentibus, ventricosus evadit, fig. 1.

COROLLA flava, calyce triplo fere longior, pilis mollibus villosus, tubus cylindraceus, superne ampliatus, labium superius concavum, externe pilis longis hirsutum, denticulatum, a tubo sulco transversali divisum, labium inferius trifidum, lobis lateralibus ex inferiore parte albidis, intermedio emarginato purpureo, albo marginato, ad basin saturate flavo venis rubris pulchre reticulato hic utrinque exseruntur cornicula duo obtusa, fig. 2.

STAMINA: FILAMENTA quatuor, alba, quorum duo breviora; ANTHERÆ didymæ, primo rotundatæ, demum acutæ, ciliatæ, fig. 3.

PISTILLUM: GERMINA quatuor; STYLUS subulatus; STIGMA bifidum, fig. 4.

SEMINA quatuor, in fundo calycis, obtuse trigona, apice rotundata, nigricantia, fig. 5.

ROOT annual.

STALK a foot and a half high or more, upright, very much branched, obtusely four-cornered, covered with strong rough hairs, thickened at the joints.

BRANCHES alternately opposite.

LEAVES of the stalk ovate and pointed, of the branches ovato-lanceolate, standing on foot-stalks, somewhat long-pointed, veiny, above slightly hirsute from being covered with soft hairs, beneath almost smooth excepting the midrib and veins, serrated, teeth towards the base gradually smallest.

LEAF-STALKS hirsute.

FLOWERS large, showy, particoloured, sessile, growing in whorls, whorls many-flowered, the uppermost nearly contiguous.

CALYX: a PERIANTHIUM of one leaf, tubular, ribbed, hirsute, five-toothed, teeth the length of the calyx, nearly equal, ending in pungent awns, the mouth bearded, the hairs of which finally converge inwardly to a point, the tube as the seeds ripen bellies out, fig. 1.

COROLLA yellow, nearly thrice the length of the calyx, covered with soft hairs; the tube cylindrical, enlarged above, the upper lip concave, beset on the outside with long hairs, toothed on the edge, divided from the tube by a transverse groove, the lower lip divided into three segments, the side lobes on the lower part nearly white, the middle lobe purple edged with white, its base of a deep yellow colour beautifully marked with red veins in the form of net-work; here rise two small blunt horns, one on each side, fig. 2.

STAMINA: four FILAMENTS of a white colour, two long, two short; ANTHERÆ double, first nearly round, finally pointed and edged with hairs, fig. 3.

PISTILLUM: GERMINA four; STYLE tapering; STIGMA bifid, fig. 4.

SEEDS four in the bottom of the calyx, bluntly three-cornered, roundish at top, and nearly black, fig. 5.

There undoubtedly is in most points a great affinity betwixt this plant and the *Galeopsis Tetrahit*; but as the characters in which they differ are as constant as they are striking, we have thought it entitled to the rank of a species, more especially as many of the old writers have been of the same opinion, and several of the moderns.

In its habit it is shorter and more bushy than the *Tetrahit*, its leaves are broader, and its flowers differ not only in colour but in size; there are many parts of the country also in which the one is found abundantly, the other not at all; and lastly, it comes up from seeds every year invariably the same.

The beauty of its flowers is sufficient to entitle it to a place in the Flower-Garden; its flowering period is not of very long duration: in corn-fields, where it is often found too abundantly, like the *Tetrahit* it is a very troublesome weed, the rough hairs with which the plant is covered proving highly injurious to the hands and arms of the reapers.

In many parts of Yorkshire we have seen this plant growing very plentifully among the corn; the fields about London are exempt from it.

It flowers in July and ripens its seeds in August; as these are produced in abundance and vegetate freely, such as wish to have the plant in their possession may succeed in its culture without any difficulty.



# MELITTIS MELISSOPHYLLUM. BASTARD-BALM.

MELITTIS. *Linn. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

*Calyx* tubo corollæ amplior. *Corollæ* labium superius planum; labium inferius crenatum. *Antheræ* cruciatæ.

*Raii Syn. Gen.* 24. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELITTIS *Melissophyllum*. *Linn. Sp. Pl. ed. 3. p. 832. Syst. Vegetab. ed. 14. Murr. p. 544. Scop. Carn. ed. 2. p. 421. Hudf. Fl. Angl. ed. 2. p. 264. Common Bastard-Balm. Jacq. Fl. Austr. v. 1. p. 18. tab. 26.*

MELISSOPHYLLUM. *Hall. Hist. n. 244.*

LAMIUM montanum *Melissæ* folio. *Bauh. Pin. p. 231.*

MELISSA Fuchii. *Hort. Eyst. vern. Ord. 6. fol. 7. f. 3. flore albo et flore purpureo. Bastard Baume with white and with purple flowers. Ger. emac. p. 690. f. 3. 3. Baulm-leav'd Archangel, Bastard-Baulm. Raii Syn. ed. 3. p. 242.*

MELISSOPHYLLUM Fuchii. Unpleasant Baulme. *Park. Tb. p. 41. f. 4.*

LAMIUM pannonicum vericoline flore. *Clus. rar. pl. p. xxxvij.*

RADIX perennis, fibrosa.

CAULES sesquipedales et ultra, erecti, tetragoni, hirsuti, ad basin ramis paucis instructi.

FOLIA opposita, petiolata, ovata, subacuta, inæqualiter et obtusiuscule ferrata, villosiuscula, rugosa, petioli canaliculati, hirsuti, basi connati.

FLORES magni, speciosi, odorati, pedunculati, verticillati, subsecundi, verticillis dimidiatis, subsexfloris.

PEDUNCULI teretes, hirsutuli, longitudine petiorum.

CALYX: PERIANTHIUM monophyllum, inflato-ventricosum, bilabiatum, venosum, glabrum, venis hirsutulis, divisuris labiorum perquam inconstantibus, fig. 1.

COROLLA monopetala, ringens, villosula, alba; *Tubus* calyce longior, multoque angustior, *Labium* superius erectum, subrotundum, integrum, inferius trifidum, laciniis obtusis, intermedia majori, subrotundo, purpureo, margine crenulato, albo, fig. 2.

STAMINA: FILAMENTA 4, alba, villosa, corolla breviora; ANTHERÆ flavescens, fig. 3.

PISTILLUM: GERMEN obtusum, quadrifidum, villosum; STYLUS filiformis, longitudine staminum; STIGMA, bifidum, acutum, fig. 4.

SEMINA 4 in fundo calycis, nigricantia, fig. 5.

ROOT perennial, fibrous.

STALKS a foot and a half high, or more, upright, square, strongly hair'd, furnished at the base with a few branches.

LEAVES opposite, standing on footstalks, ovate, somewhat pointed, unevenly and bluntly ferrated, slightly villous, wrinkled, footstalks concave above, hirsute, united at the base.

FLOWERS large, showy, odoriferous, standing on footstalks, growing chiefly to one side, in half whorls about six flowers together.

FLOWER-STALKS round, somewhat hairy, the length of the leaf-stalks.

CALYX: a PERIANTHIUM of one leaf, somewhat inflated and bellying out, two-lip'd, veiny, smooth, except the veins which are somewhat hairy, the divisions of the lips altogether inconstant, fig. 1.

COROLLA monopetalous, ringent, slightly villous, white; *Tube* longer than the calyx and much narrower, upper lip erect, roundish, entire, lower lip trifid, segments obtuse, the middle one largest, purple, the margin finely notched, and white, fig. 2.

STAMINA: four FILAMENTS, white, villous, shorter than the corolla; ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN obtuse, quadrifid, villous; STYLE filiform, the length of the stamens; STIGMA bifid and pointed, fig. 4.

SEEDS four, in the bottom of the calyx, of a blackish colour, fig. 5.

The *Melittis Melissophyllum*, a plant common to many parts of Europe, has hitherto been discovered in the more western parts of this kingdom only, particularly Pembrokehire, Devonshire, and Hampshire, in some of which counties it grows in great abundance; Dr. WARELL has observed it in various places about Barnstaple: in his company, I gathered it at the foot of a hedge by the road side near the hospitable mansion of CHICHESTER, Esq. of Hall, about two miles from that town. It is most commonly found in woods, or situations somewhat shady.

It was not probable that a plant of such singular beauty should be suffered to blossom in its native woods, unseen; accordingly, we now find it in most of our nurseries, and gardens of the curious, yet not so generally as it merits. Most authors describe the *Melittis* as having an unpleasant smell; the fresh herb when bruised partakes of the agreeable scent of Balm, and the disagreeable smell of stinking Horehound; dried, it loses the unpleasant part, and becomes delightfully fragrant; the flowers when they first open have appeared to us to be sweetly odoriferous, we say appeared to us, because as they are not described as such, others may not have found them so, for we have observed an unaccountable variation in the perceptibility of smells in different persons, we know several who can discover no scent in the flowers of the Persian Iris; the general acuteness of whose olfactories cannot be called in question.

CLUSIUS observed this plant in its wild state with white flowers; he mentions also a variety of it in all respects smaller; whether this be a variety differing as we have observed the *Melissa grandiflora* to do, or whether it be a species, we must leave to the determination of others: in the Apothecaries garden at Chelsea, we have seen a *Melittis* answering to CLUSIUS's description, the flowers of which were not more than half the size of the Devonshire one, of a pale red colour, corresponding more with JACQUIN's figure, the blossoms of which are not so large as those of our plant.

From a gland which encircles the base of the germen there is much honey secreted; hence the plant accords with its name *Melittis*, hence it becomes the resort of bees.

The cruciform appearance of the *Antheræ* ought not to form any part of the generic character, being, as Professor JACQUIN has observed, common to many of the didynamous plants.

There is no difficulty attends the cultivation of this charming hardy perennial; planted in almost any soil, provided it be moderately moist and somewhat shady, it will flourish; it increases by roots and seeds, and may be readily propagated by parting the one or sowing the other in autumn.





*Melittis*  
*Melisophyllum*







# MELISSA NEPETA. FIELD CALAMINT.

MELISSA. *Linn. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

*Calyx* aridus, supra planiusculus: labio superiore subfastigiato. *Corollæ* labium superius subforficatum, bifidum, lab. inf. lobo medio cordato.

*Raii Syn. Gen.* 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELISSA *Nepeta* pedunculis axillaribus dichotomis folio longioribus, caule adscendente hirsuto. *Linn. Syst. Vegetab.* p. 542. *Spec. Pl.* p. 828.

MELISSA foliis hirsutis ovatis acuminatis, leniter ferratis, petiolis ramosis, folia superantibus. *Hall. Hist. n.* 240.

CALAMINTHA *Pulegii* odore *f. Nepeta.* *Baub. Pin.* 228.

CALAMINTHA odore *Pulegii.* *Gerad. emac.* 687.

CALAMINTHA altera odore *Pulegii*, foliis maculosis. *Parkinsf.* 36. *Raii Syn.* p. 243. Field Calamint. *Hudson Fl. Angl.* p. 264.

RADIX	perennis, subobliqua, teres, flexuosa, lignosa, fusca.	ROOT	perennial, somewhat oblique, crooked, round, woody, brown.
CAULIS	lignosus, mox supra basin divisus in ramos elongatos, pedales ad bipedales, ascendentes, obsolete tetragonos, inferne rufescentes, pilis mollibus, horizontalibus obsitos.	STALK	woody, divided just above the base into branches, which are from one to two feet in length, ascending, faintly quadrangular, reddish towards the base, beset with soft, horizontal hairs.
FOLIA	opposita, remotiuscula, breve petiolata, vix pollicaria, patentissima, subcarinata, apice reflexa, late ovata, fere cordata, obtusiuscula, ferrata, margine revoluta, subundulata, venoso-rugosa, mollia, utrinque villosa, pallide viridia.	LEAVES	opposite, rather remote, sitting on short footstalks, scarcely an inch long, spreading, slightly keeled, reflexed at the point, of a broad ovate, almost heart-shaped figure, bluntish, ferrated, the margin rolled back, and slightly waved, wrinkled, soft, villous on both sides, of a pale green colour.
FLORES	verticillati, pallide cœrulei, ante expansionem flavescentes, odoris uti tota planta aromatici.	FLOWERS	placed in whorls, pale blue, before they expand yellowish, possessing like the whole plant a pleasant aromatic smell.
VERTICILLI	dimidiati, foliis altiores, pauciflori.	WHORLS	growing in halves, longer than the leaves, few-flowered.
BRACTEÆ	paucæ, parvæ, subulatæ.	BRACTEÆ	few, small, awl-shaped.
PEDUNCULI	communes duo, axillares, dichotomoramosi, 4-6 flori. <i>Pedicelli</i> inæquales, erecti.	COMMON PEDUNCLES	two out of the axæ of the leaves, branched, bearing four or six flowers. <i>Partial Peduncles</i> unequal, upright.
CALYX: PERIANTHIUM	monophyllum, tubulatum, persistens, quindecimstriatum, pilosiusculum, quinquedentatum, dentibus acuminatis, utrinque hirsutis, inferioribus duobus longioribus, angustioribus. Striæ dentisque fusco-purpureascentes, <i>fig. 1.</i>	CALYX:	a monophyllous PERIANTHIUM, tubular, permanent, slightly hairy, with fifteen striæ, and five teeth, which are acuminate, on both edges hairy, the two inferior ones longer and narrower. The striæ and teeth of a brown purplish colour, <i>fig. 1.</i>
COROLLA	monopetala, ringens, calyce longior, pilosiuscula. TUBUS cylindraceus, albidus. FAUX dehiscens, barbata. LABIUM superius brevius, erectiusculum, profunde emarginatum, subcordatum, dorso plicatum: inferius trifidum, undulatum, lacinia media majori, <i>fig. 2.</i>	COROLLA	monopetalous, gaping, longer than the calyx, slightly hairy. The TUBE cylindrical, whitish. Mouth of the tube bearded. The UPPER LIP shorter, almost upright, deeply emarginated, nearly obcordate, at the back folded. The UNDER LIP trifid, waved, the middle segment larger than the others.
STAMINA: FILAMENTA	quatuor, teretia, albida, corolla breviora, duo breviora. ANTHERÆ biloculares, violaceæ. POLLEN album, <i>fig. 3.</i>	STAMINA:	four round whitish FILAMENTS shorter than the corolla, two of them shorter than the rest. ANTHERÆ bilocular, violet-coloured. POLLEN white, <i>fig. 3.</i>
PISTILLUM: GERMEN	quadrifidum, basi glandula nectarifera fulvente cinctum. STYLUS filiformis, purpurascens, corollæ longitudine, cum staminibus sub labio superiore corollæ inclinatus. STIGMA tenue, bifidum, reflexum, <i>fig. 4.</i>	PISTILLUM: GERMEN	quadrifid, at the base surrounded with a nectariferous, orange-coloured GLANDULE. STYLE thread-shaped, purplish, the length of the corolla, turned in along with the stamina, under the upper lip of the corolla. STIGMA slender, bifid, reflexed, <i>fig. 4.</i>
PERICARPIUM	nullum. Calyx immutatus in sinu femina fovens.	PERICARPIUM	none. The calyx unaltered contains the seeds.
SEMINA	quatuor, ovata.	SEEDS:	four, ovate.

This species of Melissa affects dry, chalky soils, and is frequent in many parts of Kent by road sides, and in uncultivated places; we find it in tolerable abundance in the old sand-pits at the back of Charlton church, where it flowers in July, August, and September.

Students are apt to mistake it for the *Melissa Calamintha*, from which it differs essentially in many respects, which we shall particularize when that plant comes to be figured.

It is worthy of notice on account of its fragrance; it is moreover a medicinal plant.

The whole herb has a strong aromatic smell, approaching to that of Pennyroyal, and a moderately pungent taste, somewhat like that of Spearmint, but warmer; in virtue it appears to be nearly similar to a mixture of these herbs; infusions of the leaves are drank as tea in weaknesses of the stomach, flatulent colics, and uterine obstructions. *Lewis's Mat. Med. ed. Aik.* p. 172.



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ANTIRRHINUM LINARIA  
var. *Peloria*.

The Variety of TOAD-FLAX  
called *Peloria*.

The earliest account that we find of the *Peloria* is in the first volume of the *Amœnitates Academicæ* of LINNÆUS, published in 1749; it there forms a distinct thesis or dissertation, written by DANIEL RUDBERG, who enters minutely into the history of the plant, describes it fully, and illustrates it by an engraving.

The plant appears to have been first discovered in the year 1742, growing in a province of Sweden, about seven miles from Upsal, by a botanical student of the name of ZIOBERG, who gathered a specimen of it, and placed it in his herbarium, as a plant he had not before seen, ignorant at the same time of its nature and æconomy, and of the value of his discovery: in the same year Professor CELSIUS, no less celebrated for his knowledge of plants than of languages, happening to look over Mr. ZIOBERG's collection, was immediately struck with the extraordinary appearances of this novelty; but the state it was in, being dry and stuck on paper, prevented him at that time from examining it to the extent he wished. In a short time the Professor had an opportunity of shewing it to LINNÆUS, who after looking at it with great attention, proclaimed it to be a specimen of *Antirrhinum Linaria*, with the flowers, as he suspected, of some exotic, stuck on it, instead of its own; such deceptions are well known to be sometimes practised, but on opening one of the flowers, he was convinced that his suspicions were unfounded: he now became impatient to possess the living plant, roots of which, at his request, were sent him by Mr. ZIOBERG, and planted in the botanic garden at Upsal, but did not succeed; these would have been replaced in 1743, but the plants where they originally grew had been obliterated by cattle: the same injury befel them in 1744, so that it is probable LINNÆUS did not enjoy the pleasure he so ardently wished for, of seeing it blossom; and there is reason to conclude, that both the description and figure in the *Amœn. Acad.* were taken from ZIOBERG's dried specimen, which will in some degree apologise for the inaccuracy of both; that of the former we shall have occasion to mention in the sequel of this account.

Since the above dissertation was published, the *Peloria* has been found wild in various parts of Germany, and also in this our island. Mr. HUDSON, in the first edition of his *Flora Anglica*, mentions it as growing near Clapham, Surrey; but as no botanist has observed it there since that publication, and as in the second edition of the said work the fact is no longer noticed, we may reasonably conclude that Mr. HUDSON was mistaken.

In the year 1792, Mr. ORDOYNO, Nurseryman at Newark-upon-Trent, most obligingly sent me some roots of this plant, found growing wild by Mr. LEIGHTON, of Brocklesby, near Brigg in Lincolnshire, in some woods belonging to Mr. PELHAM; these were planted in a pot, and flowered with me sparingly in 1793: this summer, 1794, in the beginning of August, they produced a great number of flowering stems, and flowers in abundance, every one of which was true to its character; but though the parts of fructification were perfect, no seed-vessels were formed; its failure in this respect I attribute to my keeping the plant in too sheltered a situation, as a plant from the same root growing in a pot at Mr. VERE's, Brompton Park-House, Kensington-Gore, under the management of his gardener WILLIAM ANDERSON, produced two perfect seed-vessels, containing many to all appearance well-conditioned seeds: we may observe that the flowers of the *Linaria* itself are rarely fertile, unless the plant be exposed to an open sunny aspect.

When the *Peloria* was first published in the *Amœnit. Acad.* LINNÆUS regarded it as a new genus, the characters of which are there described, he was inclined to think that it might be a hybrid plant, generated betwixt the LINARIA, and some other unknown vegetable; the sexuality of his system often led the great LINNÆUS to indulge in whims of this sort, in the *Sp. Pl. ed. 3.* we find him to have relinquished the opinion of its being a distinct genus\*, but still adhering to his favourite idea of hybridity, now, as far as relates to this plant, very generally exploded. Prof. MURRAY has observed, that the flowers of the genus *Antirrhinum* are peculiarly subject to monstrosity; we ourselves have frequently seen the flowers of the common Toad-Flax with two or three spurs, and those of the *majus* having a tendency to a *Peloria*-like appearance, but never to assume the regularity which constitutes the beauty and extreme singularity of that plant; there is, however, no appearance in the structure of the flowers of the *Peloria* but what may be traced to those of the *Linaria*, of which they certainly are a most wonderful modification, and hence there does not appear to be the least necessity for having recourse to any preternatural sexual intercourse to explain this extraordinary phenomenon.

The monstrosity in the *Peloria* appears to be confined wholly to the Corolla with its attendant Stamina, which is hereby rendered a species of *Flos multiplicatus*, there is nothing in the other parts of the plant to distinguish it from the common Toad-Flax; that the difference in the flowers of the two plants might be more obviously seen, we have had a flower of the *Linaria* engraved on the same plate, fig. 7. this in *Peloria* is so metamorphosed as scarcely to retain one original feature; the calyx, fig. 1. varies but little, not at all in the number of its divisions; the Corolla from being irregular becomes regular, below it is dilated, above contracted, so as to form a tubular kind of neck, terminating in a prominent circular rim, which rolls back and is divided into five regular short somewhat obtuse segments, fig. 2. the mouth is internally villous, and puckered up so as to become impervious; instead of one depending spur-like Nectary, there are five, springing from the base of the Corolla, fig. 3. and spreading out almost horizontally; the Stamina are increased from four to five, fig. 4. these most assuredly are attached to the Corolla, notwithstanding LINNÆUS's assertion that they are *nullo modo corollæ affixa*, for on pulling off the Corolla, which easily separates from the receptacle in the living plant, they come away with it; no very material alteration takes place in the form of the Filaments, or Antheræ, fig. 5. nor does the Pistillum appear to partake of the monstrosity, fig. 6. hence there is no physical cause for that sterility, which most of the authors who have mentioned this plant attribute to it.

We regret extremely that we cannot as yet give a satisfactory answer to the Linnæan Quere in the *Amœn. Acad. an ex Peloriæ seminibus Linaria unquam enascatur*; we think it highly probable that the seeds of the *Peloria* will produce plants both of common Toad-Flax and *Peloria*, perhaps some bearing flowers common to both, such as HALLER relates to have been observed by FABRICIUS; but this important fact remains to be ascertained by actual experiments: with such we are now engaged, and shall not fail taking the earliest opportunity of laying the result of them before our readers, when we treat of the *Antirrhinum majus*.

The *Peloria*, like the *Linaria*, increases greatly by its roots, like that plant it succeeds best in a dry soil and exposed situation, and no plant thrives better in a pot.

LINNÆUS derives the name of this lusus from the greek word πέλωρ which signifies any thing monstrous; hence APOLLONIUS RHODIUS calls a monstrous birth πέλωρ τέκος.

\* *Linariæ proles hybrida—genus proprium constitueret nisi fructus semper abortiret—naturæ prodigium, Linn. Sp. Pl. ed. 3.*





*Peloria*



# IBERIS NUDICAULIS. NAKED-STALKED CANDY-TUFT, or ROCK-CRESS.

IBERIS *Linn. Gen. Pl.* TETRADYNAMIA SILICULOSA.

*Cor. irregularis, petalis 2 exterioribus majoribus. Silicula polysperma, emarginata.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

IBERIS *nudicaulis* herbacea, foliis finuatis, caule nudo simplici. *Linn. Syst. Vegetab. p. 589. Sp. Pl. p. 907. Fl. Suec. n. 581. Lightfoot Scot. p. 346. Hudson Fl. Angl. ed. 2. p. 285.*

IBERIS foliis pinnatis, pinnis ovatis acutis. *Hall. Hist. n. 521.*

NASTURTIUM minimum vernum foliis tantum circa radicem. *Magnol. Bot. Monsp. p. 187. cum fig.*

BURSA PASTORIS minor foliis incis et *Thal. Baub. p. 108.*

NASTURTIUM petræum foliis Burfæ Pastoris. *Baub. p. 104.*

BURSA PASTORIS minor. *Ger. emac. 251. Parkins. 806. Raii Syn. p. 303. The lesser Shepherd's Purse, or Rock-Cresse.*

RADIX annua, fibrosa, albida.

CAULES vix palmares; juniores decumbentes, adultiores adscendentes, demum erecti; plerumque aphylli, interdum tamen foliis aliquot vestiti, simplices, teretes, glabri.

FOLIA radicalia petiolata, plerumque prostrata, in orbem posita, paulo ultra uncialia, lævia, finuato-pinnatifida, obtusa; lobis in quibusdam oppositis, in aliis alternis, terminali maximo, rotundato, caulina ubi adsunt sessilia, inferiora quinquefida aut trifida, superiora simplicia, lanceolata.

FLORES racemosi, parvi, albi, inodori.

PEDUNCULI femunciales, patentissimi.

CALYX: PERIANTHIUM tetraphyllum; foliolis latolanceolatis, concavis, æqualibus, rufescentibus, deciduis, *fig. 1.*

COROLLA tetrapetala, inæqualis, calyce major; PETALA obovata, duo exteriora majora, patentia, duo interiora minora, inflexa, *fig. 2.*

STAMINA: FILAMENTA sex, subulata, erecta, alba, quorum duo lateralia breviora; ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum, compressum; STYLUS simplex, brevis; STIGMA obtusum.

PERICARPIUM: SILICULA erecta, suborbiculata, emarginata, compressa, parum concava, margine acuto cincta, bilocularis, *fig. 5.* dissepimento lanceolato; valvulis navicularibus, compressis, carinatis, *fig. 6.*

SEMINA in singulo loculo plerumque duo, subovata, *fig. 7.*

ROOT annual, fibrous, whitish.

STALKS scarcely a hand's breadth in height, the young ones decumbent, rising as they grow older, finally upright, generally naked, but sometimes furnished with one or more leaves, simple, round, and smooth.

LEAVES next the root, standing on footstalks, generally spread circularly on the ground, somewhat more than an inch in length, smooth, finuated and pinnatifid, obtuse, the lobes in some opposite, in others alternate, the terminal one very large and rounded, those of the stalk (if any) sessile, the lowermost ones divided into five or three segments, the upper ones simple and lanceolate.

FLOWERS growing in racemi, small, white, and without scent.

FLOWER-STALKS half an inch long, spreading wide.

CALYX: a PERIANTHIUM of four leaves, broad lanceolate, concave, equal, reddish, and deciduous, *fig. 1.*

COROLLA composed of four petals, unequal, larger than the calyx; PETALS obovate, the two outer ones largest, spreading, the two inner ones least, bent in, *fig. 2.*

STAMINA: six FILAMENTS, tapering, upright, white, the two side ones shortest; ANTHERÆ roundish, yellow, *fig. 3.*

PISTILLUM: GERMEN roundish, flattened; STYLE simple, short; STIGMA obtuse.

SEED-VESSEL: an upright POD, somewhat orbicular, emarginate, flattened, a little concave, surrounded with a sharp margin, composed of two cavities, *fig. 5.* the partition lanceolate, the valves boat-shaped, flattened, keeled, *fig. 6.*

SEEDS: generally two in each cavity, subovate, *fig. 7.*

This diminutive plant occurs sparingly in the neighbourhood of London, and principally to the westward of it; we have found it on Hounslow-Heath, Putney, and Barnes-Common, more frequently indeed on the last, and generally on the edges of gravel-pits, where the soil has been dry and barren, and where usually grew *Gnaphalium montanum*, *Aira flexuosa*, and *Ornithopus perpusillus*.

Its flowers, which come forth in May and June, are very minute, but when magnified sufficiently distinguish the leading trait in its generic character; they are succeeded in July by seed-vessels rather large in proportion to the plant.

The stalk is not always destitute of leaves; the more luxuriant the plant, the more it is disposed to produce them: MAGNOL observes, that they are sometimes found entire on the edges.





*Hieris*  
*nudicaulis.*



# THLASPI ARVENSE. PENNY-CRESS.

THLASPI *Lin. Gen. Pl. TETRADYNAMIA SILICULOSA.*

*Silicula emarginata, obcordata, polysperma, valvulis navicularibus, marginato-carinatis.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

THLASPI *arvense* filiculis orbiculatis, foliis oblongis dentatis glabris. *Lin. Syst. Vegetab. ed. 14. p. 587. Spec. Pl. 901. Fl. Suec. 574.*

NASTURTIIUM filiquis orbiculatis, planis, foliis oblongis, dentatis, glabris. *Hall. Hist. 511.*

THLASPI *arvense.* *Scopoli Fl. Carn. n. 810.*

THLASPI *arvense* filiquis latis. *Bauh. p. 105.*

THLASPI *Dioscoridis. Ger. emac. 262. Drabæ folio. Park. 836. Raii Syn. 305. Treacle-Mustard. Penny-Cress. Hudf. Fl. Angl. 281. Lightfoot Fl. Scot. 340.*

RADIX annua, fusiformis, subramosa, lignosa, albida.	ROOT annual, tapering, somewhat branched, woody, and whitish.
CAULIS pedalis et ultra, erectus, multangulus, teretiusculus, superne ramosus, ramis paucis, caule brevioribus, erectis, subarcuatis.	STALK a foot or more in height, upright, multangular, roundish, above branched, the branches few, shorter than the stalk, upright, bending a little inwards.
FOLIA alterna, oblonga, obtusiuscula, remote dentata, dentibus apice albidis, basi sagittata, supra viridia, subtus glaucescentia.	LEAVES alternate, oblong, a little blunt, distantly toothed, the teeth whitish at the tip; arrow-shaped at the base, above green, beneath somewhat glaucous.
FLORES racemosi, parvi.	FLOWERS small, growing in racemi.
PEDUNCULI alterni, fere horizontales, uniflori.	FLOWER-STALKS alternate, nearly horizontal, one-flowered.
CALYX: PERIANTHIUM tetraphyllum; foliolis ovatis, concavis, acutiusculis, margine alba, membranacea, fig. 1.	CALYX: a PERIANTHIUM of four leaves, the leaves ovate, concave, somewhat pointed, the edge white, and membranous, fig. 1.
COROLLA: PETALA 4, calyce duplo longiora, retusa, alba, fig. 2. auct. fig. 3.	COROLLA: 4 PETALS, twice the length of the calyx, very slightly notched at the end, and white, fig. 2. magnified, fig. 3.
STAMINA: FILAMENTA sex, subulata, albida, duo breviora; ANTHERÆ flavæ, minutæ, fig. 4. auct. fig. 6.	STAMINA: SIX FILAMENTS, tapering, whitish, two shorter than the rest; ANTHERÆ yellow and minute, fig. 4. magn. fig. 6.
PISTILLUM: GERMEN rotundatum; STYLUS brevissimus; STIGMA obtusum, fig. 5. auct. fig. 7.	PISTILLUM: GERMEN rounded; STYLE very short; STIGMA obtuse, fig. 5. magn. fig. 7.
PERICARPIUM: SILICULA pedunculi longitudine, latissima, orbicularis, profunde emarginata, medio utrinque convexiuscula, ad latera alata, compressa, bilocularis, fig. 8, 10.	SEED-VESSEL: a SILICULE the length of the flower-stalk, very broad, orbicular, deeply notched, a little convex in the middle on each side, the sides winged and flat, bilocular, fig. 8, 10.
SEMINA utrinque 4 ad 9, sub-compressa, sub-orbicularia, parallele lineata, glabra, rufa, fig. 12.	SEEDS in each cell from 4 to 9, somewhat flattened, and orbicular, marked with parallel lines, smooth, of a reddish brown colour, fig. 12.
DISSEPIMENTUM lanceolatum, acutum, fig. 11.	PARTITION lanceolate, pointed, fig. 11.
VALVULÆ naviculares, fig. 9.	VALVES boat-shaped, fig. 9.

The *Thlaspi arvense* is scarcely entitled to a place in the *Flora Londinensis*, as we have only seen a few accidental plants of it growing near the *Spaniards, Hampstead-Heath.*

RAY informs us, that it is found in the fields about *Wormingford* in *Essex* plentifully, as also at *St. Osyth* in *Tendring Hundred*, at *Stone* in *Staffordshire*, and *Saxmundham* in *Suffolk*; to these habitats we may add, on the authority of Dr. GOODENOUGH, *Broughton-Pogges* in *Oxfordshire*, in the corn-fields near which it is found in abundance.

It flowers the beginning of *June*, and the seeds are ripe by the end of the month; hence they are not liable to mix and be ground with our corn, to the flour of which they might communicate the taste of garlic, which the plant is said to give to the milk of such cattle as feed on it.

It is obviously distinguished, as RAY has observed, from all our plants of the same genus, by its smoothness, and large flat round pods, whence it has very properly been called *Penny-cress*: HALLER judiciously observes, that the true seed-vessel is in the centre, and that it owes its extraordinary breadth to winged appendages, which TOURNEFORT has admirably well expressed.

The seeds are said to produce twice as much oil as linseed.

This species and the *Thlaspi campestre* are used indiscriminately in medicine; the seeds, more especially those of the present plant, have an acrid biting taste, approaching to that of the common mustard, with which they agree nearly in their pharmaceutical properties, their pungent matter being totally extracted by water, only partially by rectified spirit, and being elevated by water in distillation. They have, joined to their acrimony, an unpleasant flavour, somewhat of the garlic or onion kind, and this they give out to spirituous as well as watery menstrua; they are rarely made use of any otherwise than as ingredients in the compositions whose names they bear, though some recommend them in different diseases preferably to the common mustard. *Lewis M. Med. 647.*









*Siumbrium Nasturtium.*



# SISYMBRIUM NASTURTIIUM. WATER-CRESS.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

*Silicula dehiscens valvulis rectiusculis. Cal. patens. Cor. patens.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

SISYMBRIUM *Nasturtium* filiquis declinatis, foliis pinnatis, foliolis subcordatis. *Lin. Syst. Vegetab. p. 594. Sp. Pl. 916. Fl. Suec. n. 592.*

SISYMBRIUM foliis pinnatis, pinnis subrotundis, brevibus racemis. *Haller Hist. 482.*

SISYMBRIUM *Nasturtium. Scopoli Fl. Carn. n. 821.*

NASTURTIIUM aquaticum supinum. *Bauh. Pin. 104.*

SISYMBRIUM Cardamine, seu Nasturtium aquaticum. *I. B. II. 884.*

NASTURTIIUM aquaticum vulgare. *Park. 1329.*

NASTURTIIUM aquaticum seu Cratevæ fium. *Ger. emac. 257. Raii Syn. p. 300. Water-Cresses. Hudson Fl. Angl. ed. 2. p. 296. Lightfoot Fl. Scot. p. 350.*

NASTURTIIUM aquaticum foliis minoribus præcocius. Early flowering Water-Cresses with smaller leaves. *Raii Syn. 301.*

NASTURTIIUM aquaticum pinnulis paucioribus. *Raii Syn. p. 301.*

RADIX annua, fibrosissima, fibris albidis.	ROOT annual, extremely fibrous, fibres whitish.
CAULES plures, ad basin plerumque repentes, sub-erecti, pedales, bipedales et ultra, purpurascens, angulosi, sulcati, ramosi, glabri, fistulosi.	STALKS numerous, usually creeping at the base, nearly upright, a foot, two feet, or more, in height, purplish, angular, grooved, branched, smooth, and hollow.
FOLIA caulina pinnata, semi-amplexicaulia, glabra, pinnis trium seu quatuor parium, oppositis, ovatis, obtusis, submarginatis, obtuse dentatis, sessilibus, externa rotundiore ad apicem sæpe attenuata; axillis radices agentibus; radicalia omnia rotundiora.	LEAVES of the stalk pinnated, half embracing the stalk, smooth, the pinnæ or leaflets consisting of three or four pair, opposite, ovate, obtuse, with a slight indentation at the end, bluntly toothed, sessile, the end leaflet rounder than the others, often running out to a point, the axæ of the leaves putting forth roots, and all the radical leaves roundish.
FLORES parvi, albi, numerosi, racemosi, racemis erectis.	FLOWERS small, white, numerous, growing in racemi which are upright.
PEDUNCULI primo erecti, demum patentes, subdeclinati, filiquis breviores.	FLOWER-STALKS at first upright, finally spreading or a little depending, shorter than the pods.
CALYX: PERIANTHIUM 4-phyllum, foliolis oblongis, concavis, obtusis, erectis, flavescentibus, fig. 1.	CALYX: a PERIANTHIUM of four leaves, which are oblong, concave, obtuse, upright, and yellowish, fig. 1.
COROLLA: PETALA 4, subrotunda, alba, demum purpurascentia, fig. 2.	COROLLA: 4 PETALS, roundish, white, finally of a purplish hue, fig. 2.
STAMINA: FILAMENTA 6, quorum duo breviora, primo ex albido virescentia, demum purpurea; ANTHERÆ flavæ, fig. 3.	STAMINA: 6 FILAMENTS, of which two are shorter than the rest, at first of a greenish white colour, lastly purple; ANTHERÆ yellow, fig. 3.
PISTILLUM: GERMEN teres, virescens, tandem purpureum; STYLUS brevissimus, vix ullus; STIGMA capitatum, fig. 4.	PISTILLUM: GERMEN round, greenish, finally purple; STYLE very short, scarce any; STIGMA forming a little head, fig. 4.
SILIQUÆ unciales, sursum subcurvatæ, patentes, subdeclinatæ feminibus protuberantibus turgidæ.	SEED-PODS, about an inch in length, bent a little upwards, spreading, slightly depending, turgid with seeds which protuberate.

Most people are acquainted with the leaves of the Water-cress, few comparatively with the plant in flower; to render their knowledge of it complete, we have represented it in both states.

It is a plant common not only to Europe but America, grows spontaneously in rivulets and watery ditches, and flowers in June, July, and August.

It varies in its appearance from several causes; the leaves, if growing in the shade, are of a green colour, if exposed to the sun, purplish brown; they rarely vary in their shape, yet we have seen instances of their being considerably elongated by growing in a stream where the current has been rapid; the alteration produced on the leaves of many other plants from the same cause, is well known to Botanists: in this state there is a possibility that the leaves, by mistake, may be eaten for those of the creeping Water-parsnep (*Sium nodiflorum*) which usually grows with it; if by accident they should, no great danger is to be apprehended, as there are no instances on record of that plant's being poisonous; to avoid, however, any alarm from such a circumstance, those who are in the practice of eating Water-cresses, should observe, that the leaves are nearly round, and that they have the cress-like taste; the leaves of the Water-parsnep are not only long and pointed, but sawed on the edges, they are also of a much paler colour, and have a very different taste.

RAY mentions two other species of Water-cress, which can only be considered as mere local varieties.

“ This



“ This plant has of late years been generally used as a salad-herb in the spring of the year, and is by many preferred to all other sorts of salads, for its agreeable warm bitter taste, and being accounted an excellent remedy for the scurvy and to cleanse the blood, as also a good diuretic, it has greatly obtained a preference to most other sorts for winter and spring use with many people. This is generally gathered in the ditches and other standing waters near London, to supply the markets; but whoever has a mind to cultivate it, may easily do it, by taking some of the plants from the places of their natural growth early in the spring, being careful to preserve their roots as entire as possible and plant them into mud, and then let the water in on them by degrees; when they have taken root, they will soon flourish and spread over a large compass of water: they should not be cut the first season, but suffered to run to seed, which will fall into the water, and furnish a sufficient supply of plants afterwards; but where the water is so deep that it will not be easy to plant them, the best method will be, to get a quantity of the plants, just as their seeds are ripening, and throw them on the surface of the water, where they are designed to grow, and their seeds will ripen and fall to the bottom, where they will take root and produce a sufficiency of these plants.” MILLER’S *Gard. Dict.*

The leaves of the Water-cress have a moderately pungent taste, and when rubbed between the fingers, emit a quick penetrating smell, like that of mustard-seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrua, and accompany the aqueous juice, which issues copiously on expression; it is very volatile, so as to rise in great part in distillation with rectified spirit as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat, to the consistence of an extract, either the expressed juice, or the watery or spirituous tinctures. Both the inspissated juice and the watery extract, discover to the taste a saline impregnation, and, in keeping, throw up crystalline efflorescences to the surface. On distilling with water considerable quantities of the herb, a small proportion of a subtle, volatile, and very pungent essential oil is obtained.

This herb is one of the milder acrid aperient antiscorbutics, of the same general virtues with the Cochlearia, but considerably less pungent, and, in a great measure, free from the peculiar flavour which accompanies that plant. HOFFMAN has a great opinion of it, and recommends it as of singular efficacy for strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the body of humours: for these purposes, the herb may be used as a dietetic article, or the expressed juice, taken in doses of from one to four ounces twice or thrice a day. LEWIS’S *Materia Medica*.







# GERANIUM DISSECTUM. JAGGED CRANE'S-BILL.

GERANIUM. *Linn. Gen. Pl.* MONADELPHIA DECANDRIA.

*Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.*

*Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.*

GERANIUM *dissectum* pedunculis folio brevioribus, foliis quinquepartito-trifidis multifidisque, petalis, emarginatis, arillis villosis. *L'Herit. Ger. Ait. Hort. Kew. vol. 2. p. 437.*

GERANIUM *dissectum* pedunculis bifloris, foliis quinquepartito-trifidis, petalis emarginatis, longitudine calycis, arillis villosis. *Linn. Syst. Vegetab. p. 618. Spec. Pl. p. 956. Flor. Suec. 622. Scopoli Fl. Carn. ed. 2. n. 848. Hudson Fl. Angl. p. 304. Lightfoot Fl. Scot. 371.*

GERANIUM caule erecto, foliis quinquelobis, lobis trifidis acutis. *Hall. Hist. 937.*

GERANIUM foliis imis usque ad pedunculum divisis. *Vaill. Paris. tab. 15. f. 2.*

GERANIUM malacoides *f. columbinum alterum. Parkinson 706. Columbinum majus dissectis foliis. Ger. emac. 938. Raii Syn. 359. Dove's-foot Crane's-bill, with jagged leaves.*

RADIX annua, teres, subfibrosa, fusca.

CAULES plures, subpedales, patentes, teretiusculi, pallide virides, hinc rubentes, pilis crebris, brevibus, albis, deorsum spectantibus, obsoleti, nodosi, ramosi, ramis alternis, divaricato-patulis.

FOLIA opposita, longe petiolata, quinquepartita, laciniis tri-sexfidis, distantibus, linearibus, inæqualibus, acutiusculis, venosis, utrinque pilis sursum spectantibus instructis, margine apiceque rubris, sinibus obtusis. Laciniæ foliorum radicalium magis approximatae et obtusiores, petiolis divaricato-patulis, compressiusculis, uti caulis pilosis.

STIPULÆ bilobæ, basi lata, albida, lobis femicordatis, acuminatis, rubris, nitentibus, linea dorsali albida, margineque ciliatis.

FLORES parvi, purpureo-rubri.

PEDUNCULI biflori, foliis breviores.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-oblongis, trinerviis, aristatis, pilis glandulosis obsoletis, *fig. 1.*

COROLLA calyce paulo brevior. PETALA quinque, oblongo-obcordata, emarginata, *fig. 2.*

NECTARIUM: GLANDULÆ quinque virides, cum petalis alternantes, *fig. 3.*

STAMINA: FILAMENTA decem, germen cingentia. ANTHERÆ subovatae, cœruleae, *fig. 4.*

PISTILLUM: GERMEN pentagonum, rostratum, pilis glandulosis vestitum. STYLUS cylindricus, persistens. STIGMA quinquefidum, rufescens, *fig. 5.*

SEMINA arillata. ARILLUS villosus, *fig. 6.*

ROOT annual, round, somewhat fibrous, brown.

STALKS many, about a foot long, spreading, roundish, of a pale green, here and there reddish, beset with a number of white, short hairs, pointing downwards; jointed, branched; the branches alternate, divaricated, spreading.

LEAVES opposite, on long footstalks, deeply divided into five segments, which are again divided into from three to six smaller ones, distant, linear, unequal, somewhat pointed, veiny, on both sides beset with hairs pointing upwards, their edge and tips red, the sinuses obtuse. The segments of the radical leaves approach nearer to each other, and are more obtuse, footstalks spreading, a little flattened, hairy like the stalk.

STIPULÆ composed of two lobes, with a broad white base, the lobes femicordate, acuminate, red, shining, having a whitish line on the back, which together with the margin is edged with hairs.

FLOWERS small, of a purplish red colour.

PEDUNCLES two flowered, shorter than the leaves.

CALYX: a PERIANTHIUM with five, ovato-oblong, three-ribbed, awned leaves, beset with glandulous hairs, *fig. 1.*

COROLLA a little shorter than the calyx. PETALS five, oblongo-obcordate, emarginated, *fig. 2.*

NECTARY: five green glandules, placed alternately with the petals, *fig. 3.*

STAMINA: ten FILAMENTS surrounding the germen. ANTHERÆ nearly ovate, blue, *fig. 4.*

PISTILLUM five-cornered, beaked, beset with glandulous hairs. STYLE cylindrical permanent. STIGMA quinquefid, reddish, *fig. 5.*

SEEDS covered with a villous ARILLUS, *fig. 6.*

We have figured this species in the state we usually find it among the herbage, on the borders of meadows and pastures; a situation which with us it very much affects; of course it is more drawn up than when it grows singly, which it frequently does by road sides, and in fallow fields.

It flowers in May and June.

It varies greatly in size, and we have seen it with white and flesh coloured blossoms.

It can scarcely be mistaken for any of the other British species; we may remark, however, that it is not only distinguished by its finely divided leaves, but that its blossoms (usually of a bright colour) being furnished with very short footstalks, appear sitting as it were among the leaves; the petals also are usually shorter than the calyx by the awns of the latter, which are unusually long; the calyx, but more particularly the style, which becomes the rostrum, is thickly covered with viscid hairs; the hairs on the stalk afford likewise a good distinction, as they do not spread horizontally as in many of the other species, but obviously point downward, which is accurately noticed in Mons. VAILLANT's figure.





*Geranium dissectum*

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# GERANIUM PARVIFLORUM. SMALL-FLOWERED CRANE'S BILL.

GERANIUM. Linn. Gen. Pl. MONADELPHIA DECANDRIA.

Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *parviflorum* caule subpubescente, floribus pentandris, petalis emarginatis, arillis lævibus pilis appressis vestitis.

GERANIUM *pufillum* pedunculis bifloris, petalis bifidis, caule depresso, foliis reniformibus palmatis linearibus acutis. Linn. Syst. Veg. p. 618. Spec. Plant. p. 957. Mantiss. 435. Burm. Geran. 23.

GERANIUM *pufillum* caule herbaceo ramofo, foliis subrotundo-lobatis, lobis trifidis, floribus minimis pentandris cœruleis. Cavanilles Diss. p. 202. tab. 83. f. 1.

GERANIUM foliis hirsutis, femiseptilobis, lobis semitrilobis, obtusis. Hall. Hist. 940.

GERANIUM *malvæfolium*. Scopoli Fl. Carniol. ed. 2. n. 847.

GERANIUM columbinum majus, flore minore cœruleo. Raii Hist. Plant. p. 1059. Synops. p. 358.

The greater blue-flowered Dovesfoot-Cranesbill. Vaill. Parif. tab. 15. f. 1.

RADIX annua, teres, fibrosa, rubescens.

CAULES diffusi, subpedales, teretes, pallide virides aut subrubentes, vix pubescentes, ramoſi.

FOLIA subrotunda, septemfida, laciniis patentibus, trifidis, obtusis, quibusdam profundius partitis, sinibus acutiusculis; venosa, villosa, mollia, pallide viridia; radicalia longissime petiolata; caulina opposita, magnitudine inæqualia, longitudine pedunculis subæqualia, laciniis acutioribus.

STIPULÆ lanceolatae, basi latae, rubrae, nitentes, laciniis acutis, ciliatis.

FLORES minuti, purpureo-cœrulei.

PEDUNCULI subunciales, axillares, solitarii, biflori.

BRACTEÆ seu Involucra stipulis similia, modo breviora.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, acutis, sursum pilosis, striatis, albo marginatis; duobus exterioribus latoribus, fig. 1.

COROLLA calyce paulo major, campanulato-hians, petalis 5 obcordatis, emarginatis, fig. 2.

NECTARIUM: GLANDULÆ 5 virides, cum petalis alternantes, fig. 3. auct.

STAMINA: FILAMENTA decem germen cingentia, quorum quinque longiora, fertilia, quinque alterna breviora, sterilia, fig. 4, 5. ANTHERÆ quinque, subovatae, cœruleae, fig. 6.

PISTILLUM uti in affinibus, fig. 7.

SEMINA solitaria, reniformia, glabra, arillata, rufa. ARILLI caudati, pallide fusci, læves, pilis albis, longitudinaliter adpressis, obſiti, fig. 8. auct. fig. 9.

Ø ROOT annual, round, fibrous, reddish.

Ø STALKS spreading, about a foot long, pale green, or sometimes reddish, very slightly downy, branched.

Ø LEAVES roundish, divided into seven lobes, the lobes trifid, obtuse, some of them more deeply divided, the sinuses rather acute; veiny, villous, soft, pale green; the radical ones on very long footstalks; the stalk-leaves opposite, of an unequal size, nearly as long as the peduncles, their lobes more acute.

Ø STIPULÆ lanceolate, broad at bottom, red, shining, segments sharp, edged with hairs.

Ø FLOWERS very small, of a purplish blue colour.

Ø PEDUNCLES from the axilla, about an inch long, two-flowered.

Ø BRACTEÆ or Involucra like the stipulæ, but smaller.

Ø CALYX: a PERIANTHIUM of five leaves, which are ovate, acute, covered with hairs which point upwards, striated, with a white margin, the two outer ones wider than the rest, fig. 1.

Ø COROLLA a little larger than the calyx, bell-shaped and open, consisting of five obcordate, emarginated petals, fig. 2.

Ø NECTARY: five green GLANDULES, placed alternately with the petals, fig. 3. magnified.

Ø STAMINA: ten FILAMENTS surrounding the germen, five of which are longer and fertile, the other five shorter and sterile, fig. 4, 5. The five ANTHERÆ are nearly ovate, and blue, fig. 6.

Ø PISTILLUM as in the other, fig. 7.

Ø SEEDS solitary, kidney-shaped, smooth, reddish, covered with an arillus. The ARILLUS pale brown, smooth, with white longitudinal hairs pressed closely to it, fig. 8. magnified at fig. 9.

While some Botanists have confounded this species with the *molle* already figured in this work, others have mistaken it for the *rotundifolium*, from both of which it is specifically different: RAY and VAILLANT, among the older Botanists, appear to have had a perfectly clear idea of it, as is evident from the description of the one and the figure of the other; in the third edition of RAY's *Synopsis*, DILLENIUS has described and figured a plant which he calls *Geranium columbinum humile flore cœruleo minimo*; this plant was first adopted by LINNÆUS in his *Spec. Plantar.* under the name of *pufillum*, as appears from his referring to this very figure, a name applicable enough to DILLENIUS's plant as figured by him, but not to RAY's and VAILLANT's, which is the one here intended. Whether DILLENIUS's plant be a stunted variety of ours, or a distinct species, we shall not take upon us at present to determine; if the former, his figure, like that of his *Cerastium semidecandrum*, has contributed greatly to mislead; if the latter, the name of *pufillum* would appear to be a very proper one, and may at any time be made use of.

Notwithstanding there are strong reasons for supposing, from observations made in the latter works of LINNÆUS, that our plant is his *pufillum*, we have thought a name so very inapplicable ought not to remain as a stumbling-block, and have therefore substituted *parviflorum*, as coinciding with RAY's description.

Having already described this plant minutely, we shall only mention a few of the striking characters in which it differs from the *molle*; in what respect it varies from *rotundifolium*, will be particularly specified when we figure that plant.

At first sight it differs from the *molle*, in having its leaves more divided, of a paler and more yellow colour, its blossoms much smaller, of a bluer and less brilliant hue; more closely examined, the stalks are scarce perceptibly hairy, or but slightly pubescent, the leaves in general grow opposite, frequently not so towards the top of the stalks, and are more open behind; the stamina bearing antheræ are never more than five, and the arillus, or coat of the seed, instead of being transversely wrinkled, as we have figured it in the *molle*, is comparatively smooth: for this latter distinction, which is a very essential one, and indeed, I may say, for the discovery of the plant, I am indebted to the superior discernment of my much-esteemed and ingenious friend Mr. DAVAL, of Orbe in Switzerland.

On the West side of London, particularly in the neglected gardens, and fallow-fields about Little-Chelsea, where the soil is light, this species is quite a weed; on the Eastern side, at least near the metropolis, it is more rarely found: in many parts of England it grows equally common with the *molle*, than which it usually forms a larger tuft, and sometimes varies with white flowers.

It blossoms in June and July.





*Geranium parviflorum*

By T. Edwards del et sculp.



# 47 FUMARIA CAPREOLATA. RAMPING FUMITORY.

FUMARIA. *Linn. Gen. Pl.* DIADELPHIA HEXANDRIA.

*Cal.* diphyllus. *Cor.* ringens. *Filamenta* 2-membranacea, *lingula*  
*Antheris* 3.

*Raii Syn. Gen.* HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS  
SEU AD SINGULOS FLORES SINGULIS.

FUMARIA *capreolata* pericarpis monospermis racemosis, foliis scandentibus subcirrhosis. *Linn. Syst.*  
*Vegetab. ed.* 14. *Murr. p.* 637. *Sp. Pl. ed.* 3. *p.* 985. *Lightf. Scot. v.* 1. *p.* 380.

FUMARIA *officinalis* var. *Huds. Fl. Angl. ed.* 2. *p.* 309.

FUMARIA *viticulis et capreolis plantis vicinis adhærens. Baub. Pin. p.* 143.

FUMARIA *major scandens flore pallidiore. Raii Syn. ed.* 3. *p.* 204. The greater ramping Fumitory.

FUMARIA *flore albo.* White flowred Fumitorie. *Ger. Herb. p.* 927. *f.* 2. described with tendrils,  
but not figured with any.

In the wonderful œconomy of nature, it is found requisite for the well-being of certain plants, that they should grow to a considerable height above the surface of the earth; by far the greater part acquire this height by the strength and firmness of their stems, which are capable of resisting the fury of the elements\*; others, less robust, acquire the necessary height, for the most part, in two ways; either the stem instinctively turns round the neighbouring plants, as in the Hop and Bindweed, or they throw out tendrils, which have the faculty of curling round whatever objects they come in contact with, as in the Vine, Cucumber, and many of the leguminous plants:—in the present instance, there is a deviation from both these modes, the stalk does not turn as in the Hop, nor does it throw out tendrils as in the Vine; but the leaves themselves perform the office of tendrils, that is, they curl round whatever objects they touch.

Though the present plant, in the colour and form of its leaves and flowers, bears a considerable resemblance to the common Fumitory, yet its greater disposition to climb did not escape the observation of the older Botanists, who regarded it as a species on that account:—by what particular means it acquired its superior power of ascension, or in what other respects it differed from the common Fumitory, they did not inquire into as they ought, or they would not have spoken of its distinct *viticuli* and *capreoli*; it may be doubted even whether LINNÆUS's term of *subcirrhosis*, together with his description of the leaves in his *Spec. Plant.* (*foliola extrema in cirrhos transeunt*) may not tend to mislead the student; for though the leaves, or rather their footstalks, perform the office of tendrils, their form (as far as we have observed) undergoes no alteration.

Some modern writers have expressed their doubts, as to this plant's being a species; if it differed only in the particular œconomy of its leaves, we should doubt it also; for we have observed the common Fumitory, when growing luxuriantly, shew a similar tendency in its leaves to lay hold of contiguous objects; and many, we believe, have taken the plant in this luxuriant state, and with this tendency, for the *capreolata*; no wonder they should perceive no difference.

We have long been convinced that the two plants are perfectly distinct; the true *capreolata* is much less common, and a more local plant than the *officinalis*; its foliage has little of the glaucous appearance in it, but inclines more to yellowish-green, and, taking two plants of the same age and of the same degree of luxuriance, it is much broader and has a much greater tendency to perform the office of tendrils, and, in consequence of this greater disposition to climb, the plant will ascend to a much greater height than the *officinalis*, and will frequently surmount a low hedge; the difference in the flowers is equally if not more obvious, and this difference is, perhaps, in no respect more striking, than in the number of the flowers which form the spike; in the *capreolata* they are much fewer than in the *officinalis*, being usually from six to twelve, while in the *officinalis* they are generally twice as numerous; the colour of the flowers exhibits a difference which strikes the eye, perhaps, as soon as any other; in the *officinalis*, the main body of the flower is bright red, in the *capreolata* it is flesh colour; hence the deep red at the extremity of the flowers in the *capreolata* forms a greater contrast in this species than in the other:—to these distinctions, we may add the superior size of the flowers of the *capreolata*, which are at least one third larger; the mouth of the flower in the *officinalis* (taking two flowers of the same age) is more open, that is the tip of the carina adheres more closely to the other parts; in the *capreolata*, this is a good character and constant; in the *officinalis*, the peduncle is inserted more into the middle of the flower; the calyx in the *capreolata* is proportionably broader, and its upper edge rises higher on the flower, *vid. fig.* 1, 2, where a flower of each is represented, that they may be compared together.

We have already observed, that this species is more local than the *officinalis*; it is certainly much more rare in the neighbourhood of London: we remember to have seen it sparingly near Edmonton, and in a few other places; more plentifully about Barnstaple, in Devonshire, and elsewhere.

It flowers from June to September, and produces plenty of seed, which comes up spontaneously, and in such abundance as to make it a kind of weed.

\* “ To loftier forms are rougher tasks assign'd,

“ The sheltering oak resists the stormy wind.”





*Fumaria capreolata*





*Trifolium scabrum*



TRIFOLIUM SCABRUM. ROUGH TREFOIL.

TRIFOLIUM Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. Capsula vel Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM scabrum capitulis sessilibus lateralibus ovatis, calycibus inæqualibus rigidis perfluentibus. Linn. Sp. Pl. ed. 3. p. 1084.

TRIFOLIUM scabrum capitulis sessilibus lateralibus ovatis, calycis laciniis inæqualibus rigidis recurvis. Linn. Syst. Vegetab. ed. 14. Murr. Scopoli Fl. Carn. ed. 2. p. 81. Hudf. Fl. Angl. ed. 2. p. 327.

TRIFOLIUM caulibus prostratis, capitulis ovatis, in alis sessilibus, calycibus rigidis, segmentis rectis. Hall. Hist. Helv. n. 371.

TRIFOLIUM flosculis albis, in glomerulis oblongis asperis, cauliculis proxime adnatis. Raii Syn. ed. 3. p. 329. Vaill. Par. t. 33. f. 1.

RADIX annua, fibrosa.  
CAULES ex eadem radice plures, procumbentes, triunciales ad semipedales et ultra in planta culta, teretes, flexuosi, pilis longis subappressis vestiti, ramosi.  
FOLIA in eadem planta varia, inferiora plerumque obovata, obtusa, superiora ovata, acuta, uti caulis pilosa, mucrone terminata, subdenticulata, venis ad marginem superne præter morem prominentibus.  
STIPULÆ nervosæ, acuminatæ, rubro striatæ.  
FLORES albi, parvi, angusti, capitati, capitulis ovatis, sessilibus, lateralibus.  
CALYX: PERIANTHIUM monophyllum, tubulatum, quinquefidum, villosum, in florescente planta rubedine tinctum, laciniis majusculis, lanceolatis, rectiusculis, duabus superioribus minoribus, peracta florescentia reflexo-patulis, rigidulis, tubus sulcatus, fig. 1.  
COROLLA papilionacea; VEXILLUM rectiusculum, obtusum; ALÆ vexillo paulo breviores, obtusæ; CARINA longitudine fere alarum, fig. 2.  
STAMINA: FILAMENTA 10, capillaria, alba; ANTHERÆ flavæ.  
PISTILLUM: GERMEN oblongum, viride; STYLUS longitudine flaminum; STIGMA capitatum.  
SEMINA intra calycem nervosum solitaria, lutea, ovalia, nitida.

ROOT annual and fibrous.  
STALKS many from the same root, procumbent, from three to six inches in length or more in the cultivated plant, round, crooked, covered with long hairs somewhat pressed to it, branched.  
LEAVES various in the same plant, the lower ones for the most part inversely ovate, obtuse, the upper ones ovate, and pointed, hairy like the stalk, terminating in a short point, slightly toothed, veins near the margin on the upper side unusually prominent.  
STIPULÆ rib'd, long-pointed, streaked with red.  
FLOWERS small, white, narrow, growing in little heads, which are ovate, sessile, and lateral.  
CALYX: a PERIANTHIUM of one leaf, tubular, divided into five segments, villous, in the flowering plant coloured with red, the segments somewhat large, lanceolate, nearly straight, the two uppermost ones smallest, when the flowering is over spreading and somewhat bent back, a little rigid, the tube grooved, fig. 1.  
COROLLA papilionaceous; STANDARD nearly straight, obtuse; WINGS a little shorter than the standard, obtuse; KEEL the length nearly of the wings, fig. 2.  
STAMINA: ten white capillary FILAMENTS; ANTHERÆ yellow.  
PISTILLUM: GERMEN oblong, green; STYLE the length of the stamina; STIGMA forming a little head.  
SEEDS one within each rib'd calyx, yellow, oval, and glossy.

The *Trifolium scabrum* is a plant found in many parts of Europe, growing in open situations, and particularly affecting chalky, or calcareous soils; we have not observed it nearer London than the neighbourhood of Croydon; it grows abundantly in the Isle of Shepey; is found also between Northfleet and Gravesend, and in various parts of the kingdom.

It takes its name of *scabrum* from the roughness of its heads, a character not altogether peculiar to this species.

It flowers in June and July, and grows readily from seeds.  
The Calyces, which are tinged with red when the plant is in flower, become afterwards green.  
In the spring of the year, while the plant is young, the foliage is remarkably pretty; the veins on the upper side of the leaf near the margin, which are unusually prominent, being then most conspicuous.  
RAY has pointed out the leading features of this plant with his usual acumen; and VAILLANT, in his *Botan. Paris.* has given a good figure of it; the hairiness on the stalk is, however, somewhat too strongly expressed.

It differs from the *Trifolium glomeratum*, already figured (with which it has some affinity) in a variety of particulars; in the *glomeratum* the heads are round, in the *scabrum* they are ovate; in the *glomeratum* the whole plant is smooth, in the *scabrum* it is hairy; in the *glomeratum* the flowers are red, in this they are white; in the *glomeratum* the leaves are strongly toothed, here they are faintly so; there is a considerable difference also in the segments of the calyx, which deserves a particular attention, as the specific description of HALLER and LINNÆUS taken from this part are greatly at variance; the former describes them as straight (*rectis*) observing that they differ in that from those of the *glomeratum*; the latter describes them as bent back (*recurvis*); the fact is, when the plant is in flower, which is the period when it is generally supposed to be described, unless otherwise mentioned, the segments of the calyx are straight, or nearly so; when out of bloom they bend back, as VAILLANT has represented them; in the *glomeratum* they bend back at a more early period, and always are more evidently recurved.

From Mr. ADAMS, of Pembroke, we received seeds of this plant growing on the sea-coast, which he suspected to be different from ours; on culture, it proved the same, varying somewhat in superiority of size and roughness.



# TRIFOLIUM OCHROLEUCUM. YELLOW CLOVER.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Flores subcapitati. Capsula vel Legumen vix calyce longius, non dehiscens, deciduum.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

TRIFOLIUM *ochroleucum* spicis villosis, caule erecto pubescente, foliolis infimis obcordatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 1143. Jacq. Fl. Austr. v. 1. p. 26. t. 40.*

TRIFOLIUM *ochroleucum* spicis villosis globosis, corollis monopetalis, calycum infimo dente longissimo recto, caule subdeclinato, foliisque villosis infimis obcordatis. *Huds. Fl. Angl. ed. 2. p. 325.*

TRIFOLIUM caule erecto, foliis hirsutis, supremis conjugatis, spicis oblongis. *Hall. Hist. 378.*

TRIFOLIUM pratense hirsutum majus, flore albo-fulphureo seu *ωχρολεῦκω*. The great white or yellowish Meadow-Trefoil.

TRIFOLIUM montanum majus flore albo-fulphureo. *Merr. Pin.*

RADIX perennis.

ROOT perennial.

CAULES plures, pedales, sesquipedales, erecti, ramosi, teretes, hirsuti, sæpe purpurascens.

STALKS several, a foot to a foot and a half in length, upright, branched, round, hirsute, often purplish.

FOLIA utrinque hirsuta, mollia, integerrima, ad oras sæpe purpurea, infima minora, obcordata, caulina majora longe petiolata, remota, ovato-oblonga, obtusa, suprema breve petiolata, angustiora.

LEAVES hairy on both sides, soft, perfectly entire, often purple at the edges, the lowermost ones small, inversely heart-shaped, those of the stalk large, standing on long footstalks, ovato-oblong, obtuse, the uppermost ones narrower, standing on short footstalks.

STIPULÆ oblongæ, femiamplexicaules, nervosæ, bicuspidatæ, apicibus prælongis.

STIPULÆ oblong, half embracing the stalk, strongly ribbed, terminating in two long points.

FLORES in capitulis, solitariis, villosis, primo subrotundis, demum subovatis.

FLOWERS growing in single, villous heads, which at first are nearly round, and afterwards somewhat ovate.

CALYX persistens, monophyllus, tubulatus, albidus, hirsutus, quinque-dentatus, infimo dente cæteris duplo longiore, *fig. 1.*

CALYX continuing, monophyllous, tubular, whitish, hirsute, five-toothed, the lowermost tooth twice the length of the others, *fig. 1.*

COROLLA papilionacea, monopetala, ochroleuca: *Vexillum* infra tubulosum, tubo longitudine dentis calycinis infimi, limbo lanceolato, compresso, erecto, tubi longitudine; *Alæ* *Carinaque* cum vexillo coalitæ, illoque multo breviores, *fig. 2.*

COROLLA papilionaceous, monopetalous, pale yellow; *Standard* below tubular, tube the length of the lowermost tooth of the calyx, limb lanceolate, upright, length of the tube, sides compressed, *Wings* and *Keel* united to the standard, and much shorter than it, *fig. 2.*

STAMINA: FILAMENTA diadelphe simplex et novemfidum: ANTHERÆ simplices, minutæ flavæ.

STAMINA: FILAMENTS united in two bodies, nine and one; ANTHERÆ simple, minute, and yellow.

PISTILLUM: GERMEN subovatum: STYLUS subulatus, adscendens: STIGMA simplex.

PISTILLUM: GERMEN somewhat ovate; STYLE tapering to a point, bending upward; STIGMA simple.

PERICARPIUM: LEGUMEN calyce striato inclusum, membranaceum, tener, tenue, monospermum.

SEED-VESSEL: a Pod contained within the striated calyx, membranous, thin, tender, one-seeded.

SEMEN luteum.

SEED yellow.

The *Trifolium ochroleucum* borrows its name from the colour of its blossoms, which is pale yellow, or brimstone, and that constantly so; by this character it is sufficiently distinguished from such of our other Clovers as resemble it in their general appearance: to this we may add the greater hairiness of the whole plant, the unusual length and uprightness of the Vexillum, as well as the disproportionate length of the lowermost segment of the Calyx. Did such distinctions generally prevail, enchanting indeed would be the study of plants!

This species affects dry pastures in the more eastern parts of the kingdom, and frequently such as have a chalky or calcareous soil; in the environs of London it is rarely found; we have observed it sparingly about Barnet; in some parts of Essex, especially about Dunmow, it is particularly abundant, as we are assured by our excellent friend, Dr. JOHN SIMS, to whose botanical skill we are proud of acknowledging ourselves frequently indebted: we have received roots of it also from LEWIS MAJENDIE, of Hedingham-Castle, Essex, of whose knowledge in agriculture, and of whose zeal in promoting his country's best interests, the annals of agriculture afford ample testimony.

It flowers in June and July.

From the great aversion it has to moisture, we could never keep it in our garden at Lambeth-Marsh.

In point of produce it is superior to the *Trifolium repens*, and, for certain soils and situations, it may perhaps prove a good substitute for it, or the *pratense*. We recommend it to the notice of the experimental agriculturist.





*Trifolium ochroleucum.*

*N. Edwards del. P. Sowerby sculp.*





*Trifolium arvense.*



# TRIFOLIUM ARVENSE. HARE'S-FOOT TREFOIL.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

TRIFOLIUM *arvense* spicis villosis ovalibus, dentibus calycinis fetaceis villosis æqualibus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 689. Sp. Pl. p. 1083. Fl. Suec. n. 668.*

TRIFOLIUM caule ramofo, foliis lanceolatis ferratis, spicis villosis ovatis. *Hall. Hist. n. 373.*

TRIFOLIUM *arvense. Scopoli Fl. Carn. p. 83. v. 2.*

TRIFOLIUM *arvense humile spicatum f. Lagopus. Baub. Pin. 328.*

LAGOPUS trifolius. *J. Baub. Hist. 2. p. 377.*

LAGOPUS five Pes Leporis. *Ger. emac. 1193.*

LAGOPUS vulgaris. *Park. 1107. Raii Syn. p. 330.*

Hare's-Foot or Hare's-Foot Trefoil. *Hudson Fl. Angl. ed. 2. p. 326. Lightfoot Fl. Scot. p. 406.*

RADIX annua, fusiformis, simplex, albida.	ROOT annual, tapering, simple, whitish.
CAULIS pedalis, suberectus, ramosus, teres, læviusculus, pilis crebris, mollibus, albis, canescens.	STALK about a foot high, nearly erect, branched, round, smoothish, grey, with numerous soft white hairs.
RAMI alterni, breviusculi, patulo-erecti.	BRANCHES alternate, shortish, betwixt upright and spreading.
FOLIA ternata; foliola æqualia, oblongo-obovata, emarginata, leviter striata, pilosa.	LEAVES growing three together, equal, oblong-obovate, emarginate, faintly striated, hairy.
STIPULÆ bicuspidatæ, apicibus subulatis, striatæ, striis interdum rubris.	STIPULÆ two-pointed, tips awl-shaped, striated, veins sometimes red.
FLORES parvi, albi, in capitulis terminalibus, subovalibus, pilosissimis, cano-carneis.	FLOWERS small, white, in terminal heads somewhat oval, very hairy, of a greyish flesh colour.
CALYX: PERIANTHIUM tubulatum, 5-dentatum, pilosissimum, albidum, dentibus subæqualibus, longitudine tubi, fetaceis, rubris, <i>fig. 1.</i> pili cani sub microscopio recti, longissimi.	CALYX: a tubular PERIANTHIUM of five teeth, very hairy, whitish, teeth nearly equal, as long as the tube, bristle-shaped, and red, <i>fig. 1.</i> the hairs grey, magnified appear straight, and very long.
COROLLA papilionacea, calyce brevior, alba; VEXILLUM obovatum, obsolete crenulatum; ALÆ angustæ, dimidio breviores; CARINA obtusalis brevior, <i>fig. 2.</i>	COROLLA papilionaceous, shorter than the calyx; STANDARD obovate, faintly notched; WINGS narrow, shorter by one half, KEEL obtuse, shorter than the wings, <i>fig. 2.</i>
STAMINA diadelpa, simplex et novemfidum, ANTHERÆ simplices.	STAMINA in two bodies, one single, nine united; ANTHERÆ simple.
PISTILLUM: GERMEN subovatum; STYLUS subulatus, ascendens; STIGMA simplex.	PISTILLUM: GERMEN subovate; STYLE tapering, ascending; STIGMA simple.
SEMEN subovatum, glabrum, virescens, calyce tectum, <i>fig. 3.</i> excerpum, <i>fig. 4.</i>	SEED somewhat ovate, smooth, greenish, covered by the calyx, <i>fig. 3.</i> taken out, <i>fig. 4.</i>

The *Trifolium arvense*, though not to be found in every walk that one takes about London, is common enough in sandy, and gravelly soils, and in light arable lands, which it chiefly affects; we have observed it most frequently about Charlton; in the sand pits behind the Church it may be found with certainty.

There is scarcely any tribe of plants which vary more in their inflorescence than the Trefoils (see the several species figured in this work) the *arvense* differs remarkably from all our others, the flowers growing in soft, oblong, hairy heads, of a light colour, which have a most pleasing appearance, and render the plant very conspicuous, it is from these, as is well known, it has very generally acquired the name of Hare's-Foot.

From what we have observed, the seeds in many of the species of this genus are not scattered abroad as in most of the leguminous plants, but vegetate in the heads as they lie on the ground; we have noticed this æconomy in the present as well as other species; how far the whole genus is subject to it deserves inquiry.

LINNÆUS in his *Flor. Suec.* considers the *Lagopus perpusillus supinus perelegans maritimus Lobelii* of Ray's *Synopsis*, p. 330. t. 14. f. 2. as a variety merely, having found it to have an annual root, and to become like the other on being cultivated.



# LATHYRUS NISSOLIA. CRIMSON LATHYRUS, or GRASS VETCH.

LATHYRUS. Linn. Gen. Pl. DIADELPHIA DECANDRIA.

*Stylus* planus; supra villosus, superne latior. *Cal.* laciniae superiores duae breviores.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Nissolia* pedunculis unifloris, foliis simplicibus, stipulis subulatis. Linn. Sp. Pl. v. 2. ed. 3. p. 1029. Syst. Vegetab. ed. 14. Murr. p. 662.

LATHYRUS pedunculis unifloris, foliis gramineis, stipulis minimis. Hall. Hist. n. 441.

LATHYRUS sylvestris minor. Baub. Pin. 344.

CATANANCHE leguminosa quorundam. J. B. II. 309.

VICIA folio gramineo filiqua porrectissima. Merr. p.

LATHYRUS angustifolius erectus, folio singulati, sine capreolis Nissoli. Magn. Hort. 112. t. 112.

NISSOLIA parva flore purpureo. Buxb. cent. 3. p. 84. t. 45. f. 1.

ERVUM sylvestre. Dodon. Pempt. p. 529. Ger. emac. Crimson grass Fetch. p. 1249.

ERVUM sylvestre five Catananche. Wild grass leafed Orobus. Park. Th. p. 1079.

RADIX annua, fibrosa.

CAULIS pedalis, et ultra, suberectus, simplex, raro ramosus, angulatus, glaberrimus.

FOLIA alterna, erecto patula, sessilia, subdecurrentia, simplicia, graminea, lanceolata, linearia, multinervia, inferne glaberrima, superne glaucescenti-viridia, marginibus sæpe erosis.

STIPULÆ binæ, exilissimæ, subulatæ.

FLORES vivide purpurei, in pedunculis longis, subsolitarii, cernui.

PEDUNCULI axillares, solitarii, uniflori, rarissime biflori, erecti, subangulati, læves, superne prope florem bractea subulata instructa, inter florem et bracteam teretior evadit et pubescit.

CALYX: PERIANTHIUM monophyllum tubulatum, quinquefidum, quinquenerve, lacinii lanceolatis acutis, inferiore longiore, ad lentem hirsutulis.

COROLLA papilionacea, vivide purpurea; Vexillum antice parum reflexum, dorso compressum; Alæ subovatae, vexillo breviores, concolores; Carina femiorbiculata, tumida, dilute rubens.

STAMINA: FILAMENTA diadelpa, simplex et novemfidum, assurgentia; ANTHERÆ subrotundæ, fig. 1, 2.

PISTILLUM: GERMEN compressum, oblongum, lineare; STYLUS planus; STIGMA antice villosum, fig. 3.

PERICARPIUM: Legumen lineare, bipollicare, pendulum.

ROOT annual and fibrous.

STALK a foot or more in height, nearly upright, unbranched for the most part, angular, very smooth.

LEAVES alternate, betwixt upright and spreading, sessile, somewhat decurrent, simple, grassy, betwixt lanceolate and linear, many-ribbed, below perfectly smooth, above of a somewhat glaucous green colour, the edges often bitten.

STIPULÆ two, extremely small, and awl-shaped.

FLOWERS of a brilliant purple colour, sitting singly on long footstalks, drooping.

PEDUNCLES axillary, solitary, one-flowered, very rarely two-flowered, upright, somewhat angular, smooth, on the upper part near the flower furnished with an awl-shaped bractea, betwixt the flower and the bractea it becomes rounder and slightly downy.

CALYX: a PERIANTHIUM of one leaf, tubular, five-ribbed, mouth divided into five segments, which are lanceolate, sharp-pointed, the lowermost longest, slightly hirsute if magnified.

COROLLA papilionaceous, bright purple or crimson; the Standard somewhat reflexed, and compress'd on the back; Wings somewhat ovate, shorter than the standard, of the same colour; Keel femiorbiculate, tumid, of a faint-red colour.

STAMINA: FILAMENTS in two bodies, one and nine, rising upward; ANTHERÆ roundish, fig. 1, 2.

PISTILLUM: GERMEN flattened, oblong, linear; STYLE flat; STIGMA villous on the fore part, fig. 3.

SEED-VESSEL: a linear Pod, about two inches long, and pendulous.

It is in pastures and among the grassy herbage on the confines of woods and hedges that this species of Lathyrus, distinguished for its grass-like foliage and bright crimson flowers, is chiefly found; in such situations it is not very unfrequent in the neighbourhood of London: being an annual, its place of growth is liable to great variation, and it is with great difficulty found, unless when in flower, which it usually is about the latter end of June;—in certain parts of the Isle of Shepey, we have observed this plant stronger and in greater abundance than elsewhere.

It is sometimes found with white blossoms; DODONÆUS describes his flowers as yellowish, and his figure, which is not equal to most of his others, represents two blossoms on a peduncle.

In its wild state it is more beautiful than when cultivated, its blossoms being much more brilliant; they appear also to more advantage among the wild grassy herbage, where they have few or no formidable rivals: the period of its flowering is of very short duration, and is a sufficient objection to its being cultivated for ornament.

It is scarcely possible to gather a wild specimen of this plant, which has not some of its leaves bitten on the edges; we have found this erosion to be occasioned by a small oblong Curculio, of a pale-brown colour, very destructive on certain lands, in the spring of the year, to the foliage of leguminous plants in general; in some springs, we have seen this insect check the growth and greatly injure so large a plant as the common pea of the kitchen garden, and we have little doubt but whole Clover crops are destroyed by it just as they come into leaf, and the Seedsman, perhaps, blamed for the badness of his seed;—we are not acquainted with the history of this insect, but recommend it to the serious attention of the agriculturist.





*Lathyrus Nissolia*



# LATHYRUS SYLVESTRIS. NARROW-LEAV'D VETCHLING, or EVERLASTING-PEA.

LATHYRUS *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Stylus* planus, supra villosus, superne latior. *Cal.* laciniae superiores  
2 breviores.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *sylvestris* pedunculis multifloris, cirrhis diphyllis; foliolis ensiformibus, internodiis  
membranaceis. *Linn. Syst. Vegetab.* p. 663. *Sp. Pl.* 1033. *Fl. Suec.* n. 644.

LATHYRUS caule alato, foliis geminis ensiformibus. *Haller Hist.* 434.

LATHYRUS *sylvestris*. *Scopoli Fl. Carn.* n. 892.

LATHYRUS *sylvestris* major. *Bauh. Pin.* 344.

LATHYRUS *sylvestris* Dodonæi. *Park.* 1061.

LATHYRI majoris species flore rubente et albido minore dumetorum, five Germanicus. *J. B. II.* 309;  
*Raii Syn.* p. 319. *Hudson Fl. Angl.* p. 317. *Lightfoot Fl. Scot.* p. 392.

RADIX perennis.

CAULIS orgyalis, et ultra, scandens, ramosus, alatus,  
lævis.

FOLIA petiolata, bina, ensiformia, mucronata, subtus  
trinervia, basi glandulosa.

PETIOLI triquetri, alati.

CIRRHII plerumque trifidi.

STIPULÆ lineari-lanceolatae, basi hamatae.

PEDUNCULI spithamei, subangulati, nudi, multi-  
flori.

FLORES racemosi, 5 ad 10.

BRACTEÆ subulatae.

PEDICELLI breves, nutantes, colorati.

CALYX: PERIANTHIUM monophyllum, subcampanu-  
latum, quinquedentatum, quinquenerve, den-  
tibus duobus superioribus brevibus, incurvis,  
tribus inferioribus rectis, longioribus, *fig.* 1.

COROLLA papilionacea; VEXILLUM amplum, emar-  
ginatum, roseum, venis obsolete reticulatum,  
*fig.* 2. ALÆ oblongæ, obtusæ, violaceæ, carinæ  
adherentes, *fig.* 3. CARINÆ ex albido-virescens,  
subtortuosa, *fig.* 4.

STAMINA: FILAMENTA decem (simplex et novem  
fidum) decimum subliberum, obliquum; AN-  
THERÆ flavæ.

PISTILLUM: GERMEN oblongum, compressum;  
STYLUS sursum erectus, superne latior;  
STIGMA antice villosum.

PERICARPIUM: LEGUMEN subbiunciale, semunciam  
fere latum, compressum, læve, fuscum, poly-  
spermum, *fig.* 5.

SEMINA numerosa, ad 10 aut 12, subrotunda, nigri-  
cantia, *fig.* 6.

ROOT perennial.

STALK six feet, or more in height, climbing, branched,  
winged, and smooth.

LEAVES standing on footstalks, two together, sword-  
shaped, terminating in a short point, beneath  
three-ribbed, glandular at the base.

LEAF-STALKS three-sided and winged.

TENDRILS for the most part trifid.

STIPULÆ betwixt linear and lanceolate, hooked or  
bearded at bottom.

FLOWER-STALKS a span long, somewhat angular,  
naked, and supporting many flowers.

FLOWERS growing in a bunch, from 5 to 10.

FLORAL LEAVES awl-shaped.

PARTIAL FLOWER-STALKS short, drooping,  
and coloured.

CALYX: a PERIANTHIUM of one leaf, somewhat  
bell-shaped, having five teeth and five ribs,  
the two uppermost teeth short and bent to-  
wards each other, the three lowermost straight  
and longer, *fig.* 1.

COROLLA papilionaceous; STANDARD large, emar-  
ginate, rose-coloured, faintly reticulated with  
veins, *fig.* 2. WINGS oblong, obtuse, violet-  
coloured, adhering to the keel, *fig.* 3. KEEL of  
a whitish-green colour, a little twisted, *fig.* 4.

STAMINA: ten FILAMENTS (nine connected, one  
single) the tenth or single one nearly free,  
oblique; ANTHERÆ yellow.

PISTILLUM: GERMEN oblong, flattened; STYLE  
bent upwards, broadest at top; STIGMA an-  
teriorly villous.

SEED-VESSEL: a POD about two inches long, and  
nearly half an inch wide, flattened, smooth,  
brown, containing many seeds, *fig.* 5.

SEEDS numerous, from 10 to 12, nearly round, and  
blackish, *fig.* 6.

In the neighbourhood of London this species is rare; we have found it sparingly in the Oak of Honour wood near Peckham; in many parts of Kent, in the hedges by the road sides, it grows abundantly.

Though greatly inferior in beauty to the *Lathyrus latifolius*, it has been thought sufficiently ornamental for the flower-garden, in which we frequently find it.

It flowers in June and July; being a hardy perennial, it requires little care in its cultivation; from its size it is rather adapted to the shrubbery or plantation than the flower-garden.





*Lathyrus sylvestris*

Publ. Jan. 1. 1791 by W. Curtis, St. Georges Crescent.





*Omithopus perpusillus*

*Illustratio fecit*

*Publ. Jan. 2. 1791. by W. Curtis Scilicet S. Georges Orfcent.*



# ORNITHOPUS PERPUSILLUS. COMMON BIRD'S-FOOT.

ORNITHOPUS Linn. Gen. Pl. DIADELPHIA DECANDRIA.

*Legumen articulatum, teres, arcuatum.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

ORNITHOPUS *perpusillus* foliis pinnatis, leguminibus incurvatis. Linn. *Syst. Vegetab. ed. 14. Murr. p. 670. Spec. Pl. p. 1049.*

ORNITHOPODIUM caule prostrato, foliis pinnatis, filiquis umbellatis, articulatis. Hall. *Hist. n. 393.*

ORNITHOPODIUM majus —, minus —, radice tuberculis nodosa. Baub. *Pin. 350.*

ORNITHOPODIUM minus. Ger. *emac. 1241.*

ORNITHOPODIUM radice nodosa. Park. 1093. *Raii Syn. p. 326. Bird's-foot. Hudson Fl. Angl. ed. 2. p. 321. Lightfoot Fl. Scot. p. 399.*

RADIX annua, tenuis, fibrosa; fibris longis, albidis, tuberculiferis.

CAULES plures, subpalmares, prostrati, simplices, teretes, pubescentes.

FOLIA pinnata, radicalia prostrata, subpetiolata, caulina alterna, sessilia; foliola 6 ad 9 juga, sæpe cum impari, ovalia, subcarinata, per lentem pilosa.

FLORES parvi, ex albo, rubro, et luteo pulchre variegati; pedunculi ex axillis foliorum 3-5 flori, longitudine folii.

CALYX: UMBELLA simplex. PERIANTHIUM monophyllum, tubulatum, pilosum, persistens, ore quinquedentato, subæquali, fig. 1.

COROLLA papilionacea: VEXILLUM obcordatum, vix emarginatum, album, venis rubris pictum, fig. 2. ALÆ ovatae, rectæ, albæ, magnitudine vix vexilli, fig. 3. CARINA compressa, flavescens, minima, fig. 4.

STAMINA: FILAMENTA diadelphea, simplex et novemfidum, fig. 5. ANTHERÆ simplices, flavescentes, fig. 6.

PISTILLUM: GERMEN lineare, viride; STYLUS setaceus, ascendens; STIGMA punctum terminale, ad lentem subcapitatum, fig. 7.

PERICARPIUM: LEGUMEN subulatum, teres, arcuatum, articulatum, isthmisque interceptum, articulatum discedens, fig. 8, 9.

SEMINA solitaria, subrotunda, fig. 10.

ROOT annual, slender, fibrous; fibres long, whitish, beset with tubercles.

STALKS several, about a hand's-breadth in length, prostrate, simple, round, downy.

LEAVES pinnated, the radical ones spread on the ground, and standing on short footstalks, those of the stalks alternate, sessile, composed of from 6 to 9 pair of pinnæ, and often terminated by an odd one, oval, somewhat keeled, and hairy if magnified.

FLOWERS small, prettily variegated with white, red, and yellow, peduncles proceeding from the axæ of the leaves and of the same length, supporting from three to five flowers.

CALYX: the UMBEL simple. The PERIANTHIUM monophyllous, tubular, hairy, permanent, the mouth having five teeth, nearly equal, fig. 1.

COROLLA papilionaceous: the STANDARD obcordate, scarcely emarginated, white, marked with red veins, fig. 2. WINGS ovate, straight, white, scarcely so long as the standard, fig. 3. KEEL flattened, yellowish, very minute, fig. 4.

STAMINA: FILAMENTS diadelphous, nine united, one single, fig. 5. ANTHERÆ simple and yellowish, fig. 6.

PISTILLUM: GERMEN linear, green; STYLE tapering, ascending; STIGMA a terminal point, forming when magnified a little head, fig. 7.

SEED-VESSEL: an awl-shaped, round, bowed, jointed POD with cross divisions, separating at the joints, fig. 8, 9.

SEEDS one in each joint, roundish, fig. 10.

The *Ornithopus perpusillus* abounds on most of the heaths and commons near London, especially where the soil is gravelly or sandy.

It flowers from June to September.

The beauty of its flowers when closely examined, and the striking similitude which the seed-vessels bear to the claws of a bird, render it an object highly deserving of attention.

It varies greatly in point of size; the little knobs adhering to the roots are common to plants of the leguminous kind.



*Acanthoides* ; *With* : —  
**CARDUUS POLYACANTHOS. PRICKLIEST THISTLE.**

CARDUUS. Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

*Calyx* ovatus, imbricatus, squamis spinosis. *Recept.* pilosum.

*Raii Syn. Gen. 9.* HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *polyacanthos* foliis decurrentibus margine spinosis, ramis patulis, calycibus subrotundis laxis, squamis subulatis patentibus subnervibus.

CARDUUS *acanthoides* foliis decurrentibus sinuato-pinnatifidis margine spinosis, calycibus solitariis pedunculatis erectis villosis. Linn. Sp. Pl. ed. 3. p. 1150. Fl. Succ. ed. 2. n. 718. Jacq. Fl. Austr. V. 3. t. 249. *polyacanthos*. Schreb. Lips. p. 15.

CARDUUS *crispus*. Linn. Lightfoot Scot. V. 1. p. 452.

CARDUUS *crispus* foliis decurrentibus sinuatis margine spinosis, calycibus globosis pedunculatis solitariis erectis. Hudson Fl. Angl. ed. 2. p. 350.

CARDUUS caule crispo. J. B. 3. p. 50. Raii Hist. V. 1. p. 309. Syn. ed. 3. p. 194.

CARDUUS spinosissimus angustifolius vulgaris. Baub. Pin. 385. ?

CARDUUS spinosissimus vulgaris Polyacantha. Theophrasti. Lob. Ic. 21.

POLYACANTHA Theophrasti. Tabern. Ic. 701.

CARDUUS polyacanthos capitulis pluribus nutantibus ramosior. Moris. Ox. III. 153. n. 11.

ONOPORDON. Thistle upon Thistle. Ger. Herb. p. 1010.

CARDUUS polyacanthos. The most prickly Thistle. Park. Tb. p. 981. n. 5.

CARDUUS sylvestris primus. Dod. p. 739. f. 1. Ger. emac. p. 1173.

RADIX annua, simplex, albida, pluribus fibris capillata.

CAULIS 2-4 pedalis et ultra, erectus, levissime sulcatus, hirsutus, 4-5 fariam alatus, alæ laciniatæ, spinosissimæ, fistulosus, sæpe usque ad basin ramifusus; Rami prælongi, patentes, apice floriferi.

FOLIA sessilia, decurrentia, lanceolata, inciso-lobata, lobis oppositis, sinuato-dentata, crispatula, margine spinosa, supra viridia, subtus albida, hispido-tomentosa.

FLORES mediocres, terminales, plerumque aggregati, purpurei, odorati, sessiles, aut breviter pedunculati, erecti aut subnutantes.

CALYX communis subrotundus, laxè imbricatus, squamis subulatis, reflexo-patulis, subtomentosis, mitibus.

COROLLA composita, tubulosa, uniformis, calyce duplo longior; Corollulæ hermaphroditæ, subæquales, reflexæ, fig. 1.

SEMEN oblongum, læve, pallide fuscum, leviter striatum, utrinque obtusum; Pappus simplex, fig. 2. auct. fig. 3.

ROOT annual, simple, whitish, furnished with numerous fibres.

STALK from two to four feet high or more, upright, very slightly grooved, hirsute, furnished with four or five wings, which are jagged and extremely prickly, branched, often to the bottom; Branches very long, spreading, producing flowers at their extremities.

LEAVES sessile, decurrent, lanceolate, cut into lobes, which are opposite, scalloped, toothed, and a little curled, spinous on the edge, above green, beneath whitish, and somewhat woolly.

FLOWERS middle-sized, terminal, for the most part clustered, purple, odoriferous, sessile or standing on short footstalks, upright or somewhat drooping.

CALYX common to all the florets, nearly round, loosely imbricated, scales tapering to a point, spreading, and somewhat reflexed, slightly cottony, and harmless.

COROLLA compound, tubular, uniform, as long again as the calyx; Florets hermaphrodite, nearly equal, and reflexed, fig. 1.

SEED oblong, smooth, of a pale brown colour, slightly striated, blunt at both ends; Down simple, fig. 2. magn. fig. 3.

The prickly armour worn by most of the *Cardui*, renders them a truly formidable tribe; our Northern brethren have chosen the Thistle as an emblem of their motto, "*Nemo me impune lacessit*:" there is however a considerable difference in the strength and number of their spines in different species, in some they are so few, and those so short, and soft, that the plant may be handled with perfect safety; while in others they are so sharp, and so completely beset every part of the plant, that it cannot even be touched without the greatest caution: of the latter kind is the present species, which divers of the ancient Botanists distinguished by the name of *polyacanthos* (*many spined*) a word, in its strict sense applicable to various other species; but by this expression they doubtless meant prickly in the extreme, *quasi spinosissimus*, conformable to which is the old English name of *Thistle upon Thistle*. On comparing this species with all our English Thistles, as they grew together in my garden, I found that the spines in this were actually more numerous than in any of the rest, though the *palustris* was not much inferior to it in point of number; the term, therefore, as far as regards our English Thistles, is founded in propriety.

Professor SCHREBER, author of the best treatise on Grasses the world ever saw, of the eighth edition of the *Genera Plantarum* of LINNÆUS, and of many other inestimable treatises in Botany and Natural History, in treating of this Thistle, has adopted the above-mentioned name of *polyacanthos*; he regards it at the same time as the *acanthoides* of LINNÆUS, which name he relinquishes, because he considers it as more properly belonging to the *acanthoides* of J. BAUHINE (our *tenuiflorus*).

This species is very common in the environs of London, by the sides of roads, on the borders of fields, and under hedges, flowering from June to September: it is sometimes found with white flowers, and according to situation is observed to vary in size from two to five or more feet, to be more or less hairy, and to have its flowers more or less clustered.

In its general appearance it approaches near to the *palustris*, with which students are apt to confound it, and from which it may be distinguished in various ways: its place of growth serves to discriminate it, as it affects dry, not moist situations, in which alone the *palustris* is found; it is more branched, and the extreme flowering branches are more bowed or bent downwards, as our figure represents; but this character is not to be depended on solely, they being often perfectly upright, as figured by Professor JACQUIN: the Calyx affords the most unerring mark of distinction between the two, the scales in that of the *palustris* are closely imbricated, as in the *arvensis*, *acaulis*, and some others, while in the present plant they are loose, much resembling those of the Burdock, and almost as harmless; RAY, who has described it most admirably, observes also, that the flowers are more odoriferous.

We last summer observed the larva of the *Papilio Cardui*, feeding abundantly on its foliage. In an agricultural point of view, it is scarcely worth noticing, being an annual, and seldom abounding either in fields or gardens.





*Carduus polyacanthos.*





*Carduus tenuiflorus.*

*Edw. Edwards.*



# CARDUUS TENUIFLORUS. SLENDER-FLOWER'D THISTLE.

CARDUUS. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Calyx* ovatus, imbricatus, squamis spinosis. *Recept.* pilosum.

*Raii Syn. Gen.* 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *tenuiflorus* foliis decurrentibus margine spinosis, ramis strictis, calycibus aggregatis sessilibus oblongo-conicis, squamis erecto-patulis pungentibus.

CARDUUS *acanthoides* foliis decurrentibus pinnatifidis, margine spinosis, calycibus aggregatis sessilibus subcylindricis glabris. *Lightfoot Fl. Scot. V. 1. p. 451.* Greywelted Thistle.

CARDUUS *acanthoides* foliis decurrentibus sinuato-dentatis, margine spinosis, calycibus ovatis terminalibus aggregatis sessilibus, squamis acuminatis erectiusculis. *Hudson Fl. Angl. ed. 2. p. 351.* Welted Thistle.

CARDUUS alis caulinis latissimis, foliis semipinnatis, pinnis angulosis, spinosis, floribus longis, fasciculatis. *Hall. Hist. 166.*

CARDUUS *acanthoides.* *J. Baub. Hist. 3. p. 516.*

CARDUUS spinosissimus capitulis minoribus. *P. B. Raii Hist. V. 1. p. 369. Syn. ed. 3. p. 194.* Welted Thistle with small flowers.

CARDUUS polyacanthos, capitulis longioribus et tenuioribus foliis albicantibus. *Morif. Hist. 3. p. 153.*

RADIX annua.	ROOT annual.
CAULIS bi-tripedalis, erectus, basi ramosus, ramis paucis, subelongatis, erectis, strictis, teretiusculis, leviter fulcatis, tomentosis, maxime versus summitates, alatis, alis latis, spinosis.	STALK from two to three feet high, upright, branched at the base, branches few, long, upright, perfectly straight, roundish, slightly grooved, cottony, particularly towards the tops, winged, wings broad and spinous.
FOLIA caulina sessilia, decurrentia, venosa, supra glabrescens, viridia, pilis adpressis albidis oblita, subtus tomentosa, costa albida, margine sinuata, dentata, spinosa, spinis longis, lutescentibus; radicalia ovato-oblonga, obtusa, incisobolata, lobis latis, obtusis, confluentibus.	LEAVES of the stalk sessile, decurrent, veiny, above smoothish, green, beset with whitish hairs pressed close, beneath cottony, the midrib whitish, the edge scolloped, toothed, and spinous, spines long and yellowish; radical leaves ovato-oblong, obtuse, divided into lobes which are broad, obtuse, and closing together.
FLORES in ramorum summitatibus congesti, sessiles, parvi, pallide purpurei, aut carnei.	FLOWERS in clusters on the tops of the branches, sessile, small, of a pale purple or flesh-colour.
CALYX: communis oblongo-conicus, imbricatus, squamis erecto-patulis, lineari-elongatis, spinosis, basi albidis, medio viridibus, apice in spinas lutescentes longitudine flosculorum exeuntibus.	CALYX: common to all the florets of an oblong-conical shape, imbricated, scales upright, spreading at top, long and linear, spinous, whitish at the base, green in the middle, and terminating in yellow spines the length of the florets.
COROLLA composita, tubulosa, uniformis; Corollulae hermaphroditæ, subæquales, fig. 1.	COROLLA compound, tubular and uniform; the Florets hermaphrodite, and nearly equal, fig. 1.
SEMINA et Pappus eadem fere ut in Card. Polyacanth. fig. 2.	SEEDS and Down nearly the same as in the prickliest Thistle, fig. 2.

J. BAUHINE appears to be the first writer who accurately determined this Carduus, which he calls *acanthoides*; RAY afterwards gave an excellent description of it in his *Hist. Pl.* and MORISON characteristically defined it in his *Hist. Oxon.* LINNÆUS in his *Spec. Pl. ed. 3.* applies J. BAUHINE's name of *acanthoides* to a very different Thistle, our *polyacanthos*, referring to it at the same time the synonyms of J. BAUHINE, RAY, and MORISON, which truly belong to the present species (vid. *synon.*) and which it is probable LINNÆUS never saw, as it is not a Swedish plant, nor a very general European one; Mr. LIGHTFOOT finding LINNÆUS's description not to accord with our plant, gave a new specific description to it, retaining the name *acanthoides*, and Mr. HUDSON does the same; it may therefore be expected, that we should continue the term *acanthoides* first imposed, and so far properly belonging to it, but we are too friendly to reform so to do, conceiving that the term *tenuiflorus* will almost of itself discriminate the species, while *acanthoides* means comparatively nothing, we make no scruple to change the name.

This thistle is a very common one in the environs of London, growing in the very suburbs; it affects warm, sheltered situations, and is therefore most frequently found at the foot of paling, walls, hedges, and on ditch banks, flowering from June to August: Dr. GOODENOUGH observes to me, that he has found it to be a common plant near the sea side, but rare in the more interior parts of the kingdom; this probably arises from its being a somewhat tender plant.

It is obviously distinguished from all our other Cardui by its upright mode of growth, by the breadth of the wings on its stalks, whence its name of welted, the greyish appearance of its foliage, and, above all, by its long, clustered heads, producing small flowers, of a pale purple or flesh colour, little longer than the very sharp spines of its calyx.

Size excepted, we have not found it subject to much variation.

We often meet with specimens much larger, and with more numerous flowers, than is shewn in our figure, which is not intended to represent the plant in its most luxuriant state.

The Farmer or Gardener have little or no cause to complain of it.



# CARDUUS PALUSTRIS. MARSH THISTLE.

CARDUUS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Cal.* ovatus, imbricatus, squamis spinosis. *Recept.* pilosum.

*Raii Syn. Gen.* 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *palustris* foliis decurrentibus dentatis : margine spinosis, floribus racemosis erectis, pedunculis inermibus. *Lin. Syst. Vegetab.* p. 724. *Sp. Pl.* 1151. *Fl. Suec. n.* 720.

CIRSIUM caule recto subnudo alato, foliis femipinnatis spinosis, calycibus molliter spinosis. *Haller. Hist. n.* 170.

CIRSIUM *palustre.* *Scopoli Fl. Carn. n.* 1004.

CARDUUS *palustris.* *Baub. Pin.* 377. *Parkinsf.* 983. *Raii Synop.* p. 194. Marsh-Thistle. *Hudson Fl. Angl. ed. 2.* p. 352. *Lightfoot Fl. Scot.* p. 453.

RADIX biennis.

CAULIS quadripedalis, et ultra, erectus, ramosus, multangulus, pilis crebris longis albis hirsutus, alatus, spinosus, longitudinaliter viridi et purpureo variegatus.

FOLIA sessilia, deflexa, lanceolata, acuta, laceratodentata, laciniis horizontalibus, oppositis, dentibusque latis, obtusiusculis, dente infimo cujusque laciniæ crispato, elevato, venosa, pilis remotioribus hirsuta, supra obscure viridia, subtus glauca, costa pallide viridescenti, subtus hirsutissima, margine spinoso, spinis basi purpurascens, apice albis, folia caulina suprema apice linearia, elongata.

Foliorum rudimenta spinosa ad caulem quinque et sexfariam interrupta, decurrentia, eum alatum, spinosum reddunt.

FLORES in summitate caulis ramorumque congesti, sessiles, violacei.

CALYX ventricosus, subovatus, lævis, sublanuginosus, arcte imbricatus, squamis ovatis, convexis, viridibus aut purpurascens, mucrone divergente purpureo terminatis, *fig. 1. auct.* sub mucrone linea prominula nitida notatis, *fig. 2.*

COROLLA composita, tubulosa, uniformis, calyce duplo longior; *Corollulæ* hermaphroditæ, subæquales, reflexæ; *Corolla* propria monopetala, infundibuliformis, tubo tenuissimo, albescens; *limbo* erecto, basi ovato, quinquefido, violaceo, laciniis linearibus, æqualibus, unica profundius separata, *fig. 3.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERA cylindracea, tubulosa, corolla paulo longior violacea.

PISTILLUM: GERMEN ovatum; STYLUS filiformis, flaminibus longior, pallide violaceus; STIGMA simplex, subulatum, nudum, *fig. 4.*

SEMINA obovata, obsolete angulata, hinc convexa, inde parum concava, albida, nitida, *fig. 5.*

PAPPUS sessilis, plumosus, *fig. 6.*

RECEPTACULUM pilosum, planum.

ROOT biennial.

STALK four feet or more in height, upright, branched, multangular, hirsute with numerous long white hairs, winged, spinous, variegated longitudinally with green and purple.

LEAVES sessile, bent downwards, lanceolate, pointed, jaggedly toothed, segments horizontal, opposite, together with the teeth broad and somewhat blunt, the lowermost tooth of each segment crisp'd and elevated, veiny, hirsute with hairs standing remotely, above of a deep green colour, glaucous on the under side, the mid-rib of a pale green colour, and extremely hairy underneath, the margin of the leaf spinous, the spines purplish at the base and white at the extremity, the uppermost stalk-leaves elongated and linear at the extremity.

Five or six rows of spinous rudiments of leaves running interruptedly down the stalk, render it winged and spinous.

FLOWERS of a violet colour, sessile, in clusters on the top of the stalk and branches.

CALYX ventricose, somewhat ovate, smooth, a little woolly, scales lying closely one over the other, ovate, convex, green or purplish, terminated by a purple diverging mucro or point, *fig. 1. magn.* beneath which is a glossy linear prominence, *fig. 2.*

COROLLA compound, tubular, uniform, twice as long as the calyx; *Florets* hermaphrodite, nearly equal, turned back, each single *Floret* monopetalous, funnel-shaped, the tube very slender, whitish; the limb upright, ovate at the base, divided into five segments, which are of a violet colour, linear, equal, one more deeply separated than the rest, very slender, *fig. 3.*

STAMINA: five FILAMENTS; ANTHERÆ forming a cylindrical tube, longer than the corolla, of a violet colour.

PISTILLUM: GERMEN ovate; STYLE filiform, longer than the stamina, of a pale violet colour; STIGMA simple, tapering, and naked, *fig. 4.*

SEEDS inversely ovate, faintly angular, on one side convex, on the other a little concave, whitish, and shining, *fig. 5.*

DOWN sessile and feathery, *fig. 6.*

RECEPTACLE hairy and flat.

On moist heaths and commons, in wet meadows, marshes, and the boggy parts of woods, the *Carduus palustris* is a very common, as well as a very troublesome plant; in the latter situation it frequently grows to the height of ten or twelve feet, and in some very favourable spots of this sort, acquires a height which we believe no other *British* herbaceous plant ever attains to.

As it is a biennial, there is no great difficulty attends its extirpation—was the husbandman as careful to weed the noxious plants from his pastures as from his corn-fields, they would soon wear a more pleasing aspect.

As it is never found but in the situations above mentioned, it is not likely to be mistaken for any other Thistle; it has usually more purple about it than the rest of its kindred, and varies as many of the others do with white flowers—formidable as its stalks and leaves are from their numerous spines, its heads are perfectly harmless.





*Carduus palustris.*







*Serratula. With.*  
**CARDUUS ARVENSIS. CURSED THISTLE.**

Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

Cal. ovatus, imbricatus, squamis spinosis. Receptaculum pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CARDUUS *arvensis* foliis sessilibus, incisfis, dentatis, spinosis; caule multifloro; radice repente.

SERRATULA *arvensis* foliis dentatis, spinosis. Linn. Syst. Vegetab. ed. 14. Murr. p. 724. Sp. Pl. 1149. Fl. Suec. 715.

CIRSIUM caule anguloso, ramoso, foliis semipinnatis, pinnis angulosis, spinosis, calycibus longis inermibus. Hall. Hist. 171.

CIRSIUM *arvense*, foliis lanceolatis, dentatis, spinosis; calycinis squamis tomentosis, inermibus, aristatis. Scopoli Fl. Carn. n. 1001.

CARDUUS vinearum repens, fonchi folio. Baub. Pin. 387. Ceanothos f, viarum et vinearum repens. Park. 959. vulgatissimus viarum. Ger. emac. 1173. Raii Syn. 194. Common Way-Thistle, or rather Creeping-Thistle. Hudf. Fl. Angl. ed. 2. p. 349.

RADIX perennis, teres, crassitie fere digiti minimi, sordide albida, profunde descendens, repens, undique longissime se protendens.

CAULIS tripedalis et ultra, erectus, subramosus, basi teres, lanuginosus, superne angulatus, lævis.

FOLIA sessilia, alterna, lanceolata, inciso-subpinnatifida, subcompressa, sinuata, undulato-crispata, spinosa, superne lævia, viridia, subtus pallidiora, vix villosiuscula, suprema subintegra.

FLORES pallide purpurei, mediocres, suavissime odorati.

PEDUNCULI foliosi, uniflori, subbiflori, superne subtomentosi.

CALYX communis ovatus, apice contractus, imbricatus, squamis numerosis, appressis, lanceolatis, dorso acutis, apice appendiculatis, mucronatis, purpurascentibus, mucronibus subreflexis, mitibus, fig. 1.

COROLLA: composita, tubulosa, uniformis; Corollulæ omnes hermaphroditæ, subæquales, monopetalæ, infundibuliformes, tubo tenuissimo, limbo quinquefido, reflexo, laciniis linearibus, unica profundius separata, fig. 2.

STAMINA: FILAMENTA 5, capillaria, brevissima, alba; ANTHERA cylindracea, corolla brevior, ore quinqueidentato, dentibus apice albis.

PISTILLUM: GERMEN ovatum, compressum; STYLUS filiformis, staminibus longior, ex albidorubellus; STIGMA obtusum, demum bifidum.

SEMINA linearia, obsolete tetragona; PAPPUS plumosus, sessilis, fig. 4.

RECEPTACULUM pilosum, pilis nitentibus, fig. 5.

ROOT perennial, round, almost the thickness of the little finger, of a dirty white colour, penetrating deeply, and creeping far and wide.

STALK three feet or more in height, upright, somewhat branched, at the base round and somewhat woolly, above angular and smooth.

LEAVES sessile, alternate, lanceolate, cut in so as to be somewhat pinnatifid, the sides somewhat pressed together, sinuated, waved and curled, spinous, above smooth, green, beneath paler, scarcely villous, the uppermost ones almost entire.

FLOWERS middle-sized, of a pale purple colour, very fragrant.

FLOWER-STALKS leafy, one or two-flowered, above somewhat woolly.

CALYX common to all the florets ovate, contracted at top, imbricated, the scales numerous, pressed close, lanceolate, sharp at the back, terminated by a pointed appendage, purplish, points turning a little back, and mild, fig. 1.

COROLLA compound, tubular, uniform, all the Florets hermaphrodite, nearly equal, monopetalous, funnel-shaped, the tube very slender, the limb divided into four, linear, reflexed segments, one more deeply divided than the rest, fig. 2.

STAMINA: five capillary FILAMENTS, very short and white; ANTHERÆ united into a cylinder, shorter than the corolla, the mouth 5-toothed, the teeth white at the tips.

PISTILLUM: GERMEN ovate, compressed; STYLE filiform, longer than the stamens, of a whitish red colour; STIGMA obtuse, finally bifid.

SEEDS linear, slightly four-cornered; Down feathery, sessile, fig. 4.

RECEPTACLE hairy, hairs glossy, fig. 5.

The several genera of *Carduus*, *Cirsium*, and *Serratula*, are in many instances so nearly allied, that Botanists are frequently at a loss for a character which shall discriminate them; without entering at present into a laboured disquisition on this subject, we shall only remark that to whatever genus the *Marsh Thistle* belongs (already figured in this work) this belongs to the same; if that be a Thistle, this must also be one; moreover, independent of the characters to be drawn from the fructification, every one will allow that it has more the habit of a *Carduus* than a *Serratula*.



We have bestowed on this plant the harsh name of *curfed*, with a view to awaken the attention of the agriculturist to its nature and pernicious effects; repeated observation has convinced us that many husbandmen are ignorant of its œconomy, and while they remain so they will not be likely to get rid of one of the greatest pests which can affect their corn-fields and pastures.

Of the Thistle tribe the greatest part are annual or biennial, and hence easily destroyed, some few are not only perennial, but have powerfully creeping roots, and none so much as the present; in pulling this plant out of the ground, we draw up a long slender root which many are apt to consider as the whole of it, but if those employed in such business examine the roots so drawn up, they will find every one of them broke off at the end, for the root passes perpendicularly to a great depth, and then branches out horizontally under ground.

To give an idea of its astonishing increase, we shall subjoin from the memoirs of the Bath Agricultural Society an experiment made for the very purpose of ascertaining it\*. When this paper was delivered to the Society from experiments then made, I was of opinion that repeated mowing or spudding would not destroy this Thistle, I have since had cause from further observation and experiments to think differently; so deep, however, does it penetrate that these operations are the only ones which can well be applied to its destruction, and if they do not effectually overcome, they will greatly enfeeble it.

This species is seen every where by road-sides, too frequently in corn-fields, and more rarely in pastures; it flowers from *June* to *August*.

The *Papilio Cardui* feeds on its foliage; the stalks are frequently disfigured by large tubercles, the effect, we apprehend, of a *Cynips*, and the leaves, especially on the under-side, are sometimes observed of a deep brown colour, as if covered with snuff, the effect of some disease, with the cause of which we are as yet unacquainted.

It varies with white flowers, and the leaves have sometimes few or no spines on them.

\* April 1st, 1778, I planted in a garden a piece of the root of this Thistle, about the size of a goose-quill, and two inches long, with a small head of leaves, cut off from the main root just as it was springing out of the ground; by the 2d of the November following this small root had thrown out shoots, several of which had extended themselves to the distance of eight feet, some had even thrown up leaves five feet from the original root; most of the shoots which had thus far extended themselves were about six inches under ground, others had penetrated to the depth of two feet and a half; the whole together, when dug up and washed from the earth, weighed four pounds. In the spring of 1779, contrary to my expectation, this Thistle again made its appearance on and about the spot where the small piece was originally planted; there were between fifty and sixty young heads, which must have sprung from the roots which had eluded the gardener's search, though he was particularly careful in extracting them.









J. G. Edwards del.

*Hieracium umbellatum.*



# HIERACIUM UMBELLATUM. BUSHY HAWKWEED.

HIERACIUM. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Cal. imbricatus, subinde calyculatus, ovatus: Pappus simplex, fessilis.*

*Raii Syn. Gen. 6, HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.*

HIERACIUM *umbellatum* foliis linearibus subdentatis sparsis, floribus subumbellatis. *Linn. Syst. Vegetab. p. 719. Sp. Pl. p. 1131. Fl. Suec. 704. Hall. Hist. n. 34.*

HIERACIUM *majus angustifolium. Clus. Hist. 2. p. 40.*

HIERACIUM *fruticosum angustifolium majus. Baub. Pin. 129. Park. 801.*

HIERACIUM *primum. Dod. Pempt. p. 638.*

HIERACIUM *Intybaceum. Ger. Herb. p. 234. f. 6. Endives Haukweedē, emac. n. 298. f. 5.*

PULMONARIA *angustifolia glabra. Petiv. H. B. 13. 11.*

PULMONARIA *graminea. Petiv. H. B. 13. 12. Raii Syn. p. 168. Narrow-leav'd bushy Hawkweed. Hudson Fl. Angl. ed. 2. p. 346. Lightfoot Fl. Scot. p. 439.*

RADIX	perennis, fibrosa, fibris longis, simpliciusculis, undique divergentibus, fuscis.	ROOT	perennial, fibrous, fibres long, mostly simple, spreading on all sides, of a brown colour.
CAULIS	pedalis, ad tripedalem et ultra, erectus, foliosus, rigidus, viridi-purpurascens, inferne lævis, simplex, superne scabriusculus, ramosus; sæpe gibbo insigni ab infecto quodam formato deformis.	STALK	from one to three feet high or more, upright, leafy, rigid, of a greenish purple colour, below smooth, simple, above roughish and branched, often deformed by one or more tubercles occasioned by some insect.
FOLIA	numerosa, sparsa, erectiuscula, sessilia, linearia, aut lanceolato-linearia, plus minus remote et obsolete dentata, nonnunquam integerrima, venosa, supra lævia, subtus scabriuscula, margine setulis rigidis ciliata.	LEAVES	numerous, placed in no regular order, somewhat upright, sessile, linear, or lanceolate-linear, more or less remotely and faintly toothed, sometimes perfectly entire, veiny, above smooth, beneath roughish, edged with minute rigid hairs.
FLORES	majusculi, lutei, in pedunculis ramosis.	FLOWERS	rather large, yellow, on branched flower-stalks.
PEDUNCULI	varie divisi, inæquales, umbellas spurias subinde representantes, superne parum incrassati, squamula foliosa una alterave instructi.	PEDUNCLES	variously divided, unequal, sometimes representing a sort of umbel, above slightly thickened, furnished with one or more leafy scales.
CALYX	ovatus, basi parum ventricosus, e livido aut nigricante virens, imbricatus, foliolis exterioribus reflexis.	CALYX	ovate, bellying out somewhat at the base, of a livid or dusky green colour, imbricated, the outer leaflets or scales turned back.
COROLLA	composita, æqualis; COROLLULÆ hermaphroditæ, monopetalæ, ligulatæ, truncatæ, quinquedentatæ, fig. 1.	COROLLA	the general one compound and equal; the FLORETS hermaphrodite, monopetalous, ligulate, truncated, and five-toothed, fig. 1.
STAMINA	FILAMENTA 5, capillaria, intra tubum Corollæ; ANTHERÆ in cylindrum coalitæ, fusco-luteæ.	STAMINA	five capillary FILAMENTS, within the tube of the Corolla; ANTHERÆ forming a cylinder, of a brownish yellow colour.
PISTILLUM	GERMEN subovatum; STYLUS filiformis, flaminibus longior; STIGMATA duo, recurva, fig. 2.	PISTILLUM	GERMEN somewhat ovate; STYLE filiform, longer than the stamina; STIGMATA two, turned back, fig. 2.
SEMINA	oblonga, nigricantia; PAPPUS simplex, fessilis, lutescens, fig. 3.	SEEDS	oblong, blackish; DOWN simple, sessile, yellowish, fig. 3.

The *Hieracium umbellatum* grows on dry, sandy, or gravelly heaths, and in uncultivated places near London: in such situations, and in such only, we have observed it about Hampstead, Barnet, and Charlton; in the old sand pits near the bottom of the lane leading down from Charlton-Church, on the left-hand side, it may be found in great plenty.

It varies in size, from one to three feet or more; in the smaller specimens the leaves are more entire, frequently altogether so, and the stalk is sometimes simple and uniflorous; in the larger ones the stalk is much branched, and the leaves are more toothed, or jagged, when cultivated in a garden, where it grows most readily: it loses in common with most of the plants of the same class, its natural character, and especially its umbellated appearance, which indeed it rarely has in perfection; the most obvious character of the species consists in the narrowness of its leaves.

It flowers in August and September.

Its stalks are very frequently beset with gouty tubercles of various forms and sizes, which contain within them a number of small maggots, in different cells, and which most probably produce some species of Cynips.

LINNÆUS notices its being used in Scania as a dye, communicating to woollen an elegant and beautiful colour, *Fl. Suec.*



# LEONTODON HIRTUM. DEFICIENT DANDELION.

LEONTODON *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS. *Recept. nudum.* Calyx imbricatus, squamis laxiusculis. Pappus plumosus.

*Raii Syn. Gen. 6.* HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

LEONTODON *hirtum* calyce toto erecto, foliis dentatis hirtis: fetis simplicissimis. *Linn. Syst. Veg. ed. 14. Murr. p. 715. Sp. Pl. ed. 3. p. 1123. Leers Fl. Herborn. ed. 2. p. 172.*

HEDYPNOIS *bispidum* var  $\beta$  *hirtum.* *Hudson Fl. Angl. ed. 2. p. 340.*

RHAGADIOLUS foliis semipinnatis asperimis. *Haller Hist. n. 7.*

HIERACIUM pumilum faxatile asperum præmorfa radice. *Baub. Pin. 128. Raii Syn. ed. 3. p. 167.*  
Dwarf Rough Stone Hawkweed with bitten Roots.

HIERACIUM pumilum Alpinum præmorfa radice. Dwarf Mountain Hawkweed. *Park. Th. p. 789. 5.*

Among the plants of the Class *Syngenesia*, there are some few whose seeds are not furnished with any pappus, or down, as the *Lapsana communis*, and *Rhagadiolus* of LINNÆUS; in the present plant the seeds in the outer row are destitute of pappus, or crowned only with a few very short bristles, while all the others are furnished in the usual manner. HALLER, the first author, perhaps, who noticed this appearance, considers it of sufficient consequence to found a genus on; he therefore makes it a *Rhagadiolus*, a genus also of TOURNEFORT'S, united by LINNÆUS with the *Lapsana*.

LEERS has very minutely noticed the characters in which this plant differs from the *bispidum* of LINNÆUS, whose specific descriptions of the two plants are not sufficiently discriminating; the setæ, as LEERS has observed, and we have found by experience, varying greatly in both species, for *setis simplicibus*, we would therefore substitute *calycibus glabriusculis, seminibus exterioribus pappo destitutis*, either of which characters will distinguish them; the old Botanists distinction of radice præmorfa is not to be depended on in all cases, as it varies with the age of the plant.

When we figured in the 53d number of the *Flora Lond.* the *Leontodon bispidum*, we had no idea that the present plant was a distinct species, presuming too much on the character drawn from the nodding of the peduncle, which we had found highly useful in ascertaining that species; we considered it as a variety merely, arising from situation, and such should probably ever have regarded it, had not the singular circumstances attending the outer row of seeds been mentioned to us by a Botanist of superior discernment, Dr. BENJAMIN DAWSON, Minister of *Burgh*, in *Suffolk*; on examination we found the seeds exactly as he had represented them, and on comparing the two plants, found them to differ in a variety of particulars, the most striking of which we shall here enumerate.

The whole plant is much smaller, the leaves spread more on the ground, and are of a darker colour, the flower-stalks are more numerous, less upright, not only turning down or nodding at top, but frequently irregularly curled, especially in the young ones, beset with long crooked hairs, particularly towards the bottom, never furnished with small squamæ or leaves, the flower-buds, and flowers themselves much smaller in proportion to those of the *bispidum*, more resembling those of the *Leontodon autumnale*, the uppermost leaves of the calyx smooth, and at the point and edges of a deep purple or blackish colour; and that as far as we have observed invariably, many other characters might be pointed out; but these it is presumed, assisted by the figure, will be sufficient to make the plant known; in doubtful cases recourse may be had to the seed, and it will not be necessary to wait till that be ripe; the character appertaining to it will be visible on a nice examination, even when the plant is in flower: we may add, that the two plants cultivated in the same soil and situation, continue widely different.

Presuming that an English name for this species, drawn from a circumstance leading so immediately to a knowledge of the plant, would be superior to a literal translation of the name of *hirsutum*, and which is so very similar to that of *bispidum*, we have been induced to give it that of *deficient*.

The *Leontodon hirtum* is frequent on most of the heaths and commons about town, particularly Hampstead-Heath, and Barnes-Common, where it flowers from June to August.

We rarely meet with the *hirtum* and *bispidum* on the same spot.

Fig. 1. Corollula.

2. Series exterior femin. pappo dest.

3. Semen hujusmodi seorsim posit.

4. Semen ex interior part. fl. pappo instruct.

Fig. 1. A single floret.

2. The outer row of seeds without any pappus.

3. One of the same kind placed singly.

4. A seed from the interior part of the flower furnished with pappus.





*Leontodon hirtum*



# CHRYSANthemum SEGETUM. CORN CHRYSANthemum, OR MARIGOLD.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus marginatus. Cal. hemisphæricus, imbricatus, squamis marginalibus membranaceis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

CHRYSANthemum *segetum* foliis amplexicaulibus, superne laciniatis, inferne dentato-ferratis. Linn. Syst. Vegetab. ed. 14. Murr. p. 773. Sp. Pl. p. 1254.

BELLIS lutea, foliis profunde incis, major. Baub. Pin. 262.

CHRYSANthemum *segetum*. Ger. emac. 743. nostras. Park. 1370. *segetum*. Raii Syn. p. 182. Corn Marigold. Hudf. Fl. Angl. ed. 2. p. 371.

RADIX annua, tenuis, perpendicularis, parum fibrosa, albida.

CAULIS pedalis et ultra, erectus, ramosus, teretiusculus aut obsolete angulatus, glaber, nitens, glaucescenti-viridis, cavus, in pedunculos continuatus. Rami breviusculi.

FOLIA remotiuscula, alterna, sessilia, femiamplexantia, erecto-patula, variantia, oblonga aut oblongo-subovata, basi latiora, subsagittata, subauriculata, nonnulla supra basin coarctata, versus apicem latiora, margine dentata, dentibus, nunc remotioribus nunc approximationibus aut laciniata, laciniis obtusiusculis, apice acuta, sæpe trifida, lævia, mollia, leviter venosa, utrinque glauca.

FLORES solitarii, flavi, magni.

PEDUNCULI suberecti, cavi, superne incrassati, uniflori.

CALYX communis, hemisphæricus, imbricatus, squamis arcte incumbentibus, ovatis, virecentibus, interioribus per gradus majoribus, intimis terminatis margine scariosa, tenuissima, membranacea, lacera, subfusca.

COROLLA composita, radiata; Corollulæ disci hermaphroditæ, numerosæ, longitudine calycis, tubulosæ, quinquefidæ, fig. 2. Corollulæ radii femineæ, circa 16 aut 18, ligulatæ, oblongæ, truncatæ, emarginatæ, sæpe tridentatæ, lineis duabus impressis exarata, fig. 1.

STAMINA hermaphroditis, FILAMENTA 5, capillaria, brevissima, flava; ANTHERA cylindracea, tubulosa, concolor, corolla paulo brevior.

PISTILLUM hermaphroditis uti femineis; GERME ovatum, compressum, margine membranaceum; STYLUS filiformis, flaminibus longior, concolor; STIGMATA duo, revoluta, flava.

SEMINA oblonga, utrinque obtuse truncata, sulcata, subangulata, subincurva, pallide fusca, fig. 3, 4.

RECEPTACULUM nudum, punctatum, convexum.

ROOT annual, slender, perpendicular, slightly fibrous, and whitish.

STALK a foot or more in height, upright, branched, nearly round or slightly angular, smooth, shining, of a glaucous green colour, hollow, continued into peduncles. Branches rather short.

LEAVES somewhat remote, alternate, sessile, half embracing the stalk, betwixt upright and spreading, variable, oblong, or oblong with a tendency to ovate, broadest at the base, somewhat arrow-shaped and slightly eared, some of them narrowed above the base, and broadest towards the top, the edge toothed, the teeth sometimes nearer to each other, sometimes more remote, or jagged, the segments a little blunt, the extremity pointed, often trifid, smooth, soft, slightly veiny, and glaucous on both sides.

FLOWERS growing singly, yellow, large.

FLOWER-STALKS nearly upright, hollow, thickened above, one-flowered.

CALYX common to all the florets, hemispherical, imbricated, the scales lying closely one over the other, ovate, greenish, the inner gradually largest, the innermost ones terminated by a margin sonorous to the touch, very thin, membranous, torn, brownish.

COROLLA compound, radiate. Florets of the disk, hermaphrodite, numerous, the length of the calyx, tubular, divided into five segments, fig. 2. Florets of the radius female, about 16 or 18, flat, oblong, truncated, emarginate, often three-toothed, and scored with two impressed lines, fig. 1.

STAMINA in the hermaphrodite florets, five, capillary, very short FILAMENTS of a yellow colour; ANTHERÆ of the same colour, forming a tubular cylinder, a little shorter than the corolla.

PISTILLUM in the hermaphrodite florets the same as in the female; GERME ovate, flattened, margin membranaceous; STYLE thread-shaped, longer than the stamens, and of the same colour; STIGMATA two, rolled back, and yellow.

SEEDS oblong, obtusely truncated at each end, grooved, somewhat angular, a little bent, of a pale brown colour, fig. 3, 4.

RECEPTACLE naked, dotted, and convex.

The *Chrysanthemum segetum*, as its name imports, is a plant peculiar to corn-fields; in the neighbourhood of London it is not frequent, but in many parts of England, as well as in other parts of Europe, in such soils as are favourable to its growth, it abounds to that degree as almost to annihilate the crop sown; hence laws have been enacted, and fines imposed, in Denmark, Saxony, and some parts of Scotland, for the purpose of obliging the husbandman to keep his lands clear of it.

The weeding of corn-fields from such incroaching plants as the present, either by the hand, or the weeding hook, according to the nature of the plant, is a practice much followed in those countries which are best cultivated: there is this satisfaction attends it, while it promotes the Farmers interest, it gives employment to a great number of industrious women and girls. To the prevalence of this practice it is that we are indebted for one of the finest sights a cultivated country affords, extensive fields of corn, without a single obtruding weed; and on this practice the Farmer, we apprehend, may place a firmer reliance, than on the mode which LINNÆUS recommends for its extirpation, viz. by dunging the land, suffering it to lie fallow for one year, and harrowing it five days after sowing the corn.

It is not a little remarkable, that this plant should never have been found with double flowers; if it had, there is no doubt, but from the brilliancy of their colour, it would long since have contributed to ornament our gardens as well as the *C. coronarium* or *inodorum*, which are of the same genus.





*Chrysanthemum Legetum.*



# ACHILLEA MILLEFOLIUM. COMMON YARROW, or MILFOIL.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. Pappus nullus. Cal. ovatus, imbricatus. Flosculi radii circiter quinque.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

ACHILLEA *Millefolium* foliis bipinnatis, nudis; laciniis linearibus, dentatis; caulibus superne sulcatis. Linn. Syst. Veg. ed. 14. Murr. p. 778. Sp. Pl. p. 1267.

ACHILLEA foliis pinnatis, pinnis longe æqualibus, pinnatis, pinnulis trifidis et quinquefidis. Hall. Hist. 107. Scop. Fl. Carn. 1095.

MILLEFOLIUM vulgare. Baub. Pin. 140. Park. 693. terrestre vulgare. Ger. em. 1072. vulgare. Raii Syn. 183. Common Yarrow, or Milfoil. Hudson Fl. Angl. ed. 2. p. 374.

RADIX	perennis, repens, teres, fibrillosa, cinereo albida.	ROOT	perennial, creeping, round, furnished with numerous fibres, of a whitish ash-colour.
CAULIS	pedalis et ultra, erectus, teretiusculus, subangulatus, inferne glaber, tomento tenui araneoso vestitus, superne sulcatus, lanuginosus, ramosus.	STALK	a foot high or more, upright, nearly round, slightly angular, below smooth, covered with a slight cobwebby down, above grooved, woolly, and branched.
FOLIA	alterna, lineari-lanceolata, radicalia petiolata, petiolis canalicularibus, caulina sessilia, subamplexantia, supra glabra, subtus villosula, pinnata, pinnis oppositis, subovatis, multifidis, acutiusculis, obliquis.	LEAVES	alternate, betwixt linear and lanceolate, the radical ones standing on foot-stalks, the foot-stalks hollowed above, those of the stalk sessile, somewhat embracing the stalk, above smooth, beneath a little villous, pinnated, the pinnæ opposite, somewhat ovate, multifid, somewhat pointed and oblique.
FLORES	in corymbo terminali, lanuginoso congesti, albid.	FLOWERS	whitish, terminating in a woolly, close corymbus.
BRACTEÆ	lineares, integræ, et pinnatifidæ, parviusculæ, ad radios pedunculosque corymbi.	BRACTEÆ	linear, entire and pinnatifid, smallish, placed at the radii and peduncles of the corymbus.
CALYX	communis ovatus, pubescens, arcte imbricatus, squamis ovatis, concavis, obtusiusculis, albo; membranaceis, apice fusco ciliatis, nervo dorsali viridi.	CALYX	common to all the florets ovate, downy, closely imbricated with ovate, concave, bluntish scales, having a white membranous edge, tipped with a brown fringe, the midrib green.
COROLLA	composita, radiata; Corollulæ disci hermaphroditæ, circiter duodecim, infundibuliformes, calycis longitudine, tubo sordide lutescente, limbo quinquefido, laciniis ovatis, acutis, revolutis, subdiaphanis, albidis, fig. 1.	COROLLA	compound, radiated; FLORETS of the disk hermaphrodite, about twelve, funnel-shaped, the length of the calyx, tube dirty yellow, the limb quinquefid, the segments ovate, pointed, rolled back, rather transparent and whitish, fig. 1.
COROLLULÆ	radii fæmineæ, plerumque quinque, planæ, patentes, suborbiculares, obtuse tridentatæ, seu obsolete trifidæ, lacinula intermedia brevior, tubo cylindrico, viridescente, striato, subpubescente, calycis longitudine, fig. 2.	FLORETS	of the radius female, usually five, flat, spreading, somewhat round, bluntly three-toothed or faintly trifid, the middle segment shorter than the rest, the tube cylindrical, greenish, striated, slightly downy, the length of the calyx, fig. 2.
STAMINA	Hermaphroditis: FILAMENTA quinque, capillaria, brevia; ANTHERA cylindracea, tubulosa, lutea, fig. 3.	STAMINA	in the Hermaphrodite flowers: five, capillary, short FILAMENTS; ANTHERÆ forming a yellow, tubulous cylinder, fig. 3.
PISTILLUM	Hermaphroditis et Fæminæis: GERMEN oblongum, compressiusculum, subtetragonum, glabrum, albidum; STYLUS capillaris, staminibus longior; STIGMATA duo, linearia, truncata, reflexo-patula, hyalina, fig. 4.	PISTILLUM	in the Hermaphrodite and Female flowers: GERMEN oblong, a little flattened, somewhat four-cornered, smooth, whitish; STYLE very slender, longer than the stamens; STIGMATA two, linear, truncated, a little reflexed, pellucid, fig. 4.

The Yarrow is a plant extremely common with us in dry pastures, on ditch-banks, and by road-sides: it flowers from July to September, its blossoms are usually white, but are frequently found of different shades from a pale to a deep red, the most brilliant of which are cultivated in our gardens for ornament.

Though the Yarrow constitutes a very large part of the pasturage of this kingdom, our agriculturists are not agreed whether to consider it as a plant to be cultivated, or extirpated.

According to LINNÆUS's experiments, it was eaten by sheep, horses, and swine; kine and goats sometimes eat, sometimes rejected it; if we are to be influenced by the predilection which most of these animals have shewn for it, and are satisfied with the mode in which the experiments were conducted, we should consider it worthy of cultivation. Mr. ANDERSON, who in general is too precipitate in his encomiums on new plants, speaks very highly in its favour; he observes, that though cattle do not eat its flowering stems, which remain, and give the pasture a disagreeable appearance, they are very fond of its foliage, which as it forms a close pile, or as some express it, a good bottom, makes it one of the most desirable grasses (speaking in the language of husbandry) the Farmer can sow his land with; but he concludes, this plant seems to be altogether unfit for hay, and therefore ought only to be sown where the field is intended for pasturage.

The leaves and flowers of Milfoil are greatly recommended by some of the German Physicians, as mild corroborants, vulneraries, antispasmodics, in diarrhoeas, hemorrhages, hypochondriacal, and other diseases.

They promise by their sensible qualities to be of no inconsiderable activity. They have an agreeable, though weak, aromatic smell, and a bitterish, roughish, somewhat pungent taste. The leaves are chiefly directed for medicinal use, as having the greatest bitterishness and astringency: the flowers have the strongest and most subtle smell, are remarkably acrid, and promise to be of most efficacy, if the plant has really any such efficacy as an anodyne or antispasmodic.

The virtue of the leaves and flowers is extracted both by watery and spirituous menstrua, the astringency most perfectly by the former, their aromatic warmth and pungency by the latter, and both of them equally by a mixture of the two. The flowers distilled with water yield a penetrating essential oil, possessing the flavour of the Milfoil in perfection, though rather less agreeable than the flowers themselves, in consistence somewhat thick, and tenacious, in colour remarkably variable, sometimes of a greenish yellow, sometimes of a deep green, sometimes of a bluish green, and sometimes of a fine blue: these differences seem to depend in great measure on the soil in which the plant is produced. Lewis's Mat. Med. p. 424.

In some parts of Sweden they put it to beer in a fermenting state to produce inebriation. Linn. Fl. Suec.





*Achillea Millefolium*





*Centaurea Cyanus*



# CENTAURÉA CYANUS. CORN BLUE-BOTTLE.

CENTAUREA. Linn. Gen. Pl. SYNGENESIA POLYGAMIA FRUSTRANEA.

*Receptaculum* setosum. *Pappus* simplex. *Cor.* radii infundibuliformes, longiores, irregulares.

*Raii Syn. Gen.* 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CENTAUREA *Cyanus* calycibus ferratis, foliis linearibus integerrimis: infimis dentatis. Linn. Syft. Vegetab. ed. 14. Murr. p. 785. Sp. Pl. ed. 3. p. 1289. Fl. Suec. n. 776. Lightfoot Fl. Scot. v. 2. p. 499. Blue-bonnets. Scot. Aust. Hudf. Fl. Angl. ed. 2. p. 375.

CYANUS foliis imis ellipticis, dentatis, supremis linearibus, femiflosculis latissimis. Haller Hist. n. 191.

CENTAUREA *Cyanus*. Scop. Fl. Carn. 2. p. 138.

CYANUS fegetum. Baub. Pin. 273.

CYANUS vulgaris. Ger. Herb. p. 592.

CYANUS minor vulgaris diverforum colorum. Park. Theat. p. 481. Raii. Syn. ed. 3. p. 198. Blue-bottles.

RADIX annua, subfusiformis, lignosa, fibrosa.

CAULIS erectus, bi-tripedalis, subangulatus, tomento araneofo vestitus, fistulosus, ramosus; Rami erecti, caule altiores.

FOLIA caulina alterna, sessilia, linearia, 3 ad 5 nervia, acuta, pagina superior alba, tomentosa, inferior viridis, nudiuscula, infima radicalia in adolescenti planta multo latiora, obtusiora, et subintegra, iis proxima plus minusve dentata, aut laciniata.

FLORES læte cærulei, inodori; Pedunculi simplices, superne incrassati.

CALYX communis subrotundus, imbricatus, squamis lanceolatis, interioribus longioribus, integris, superne rufescentibus, apice fibris fuscescentibus ciliatis; exterioribus brevioribus, ferratis, ferraturis reflexis.

COROLLA composita, flosculosa, difformis, Corollulae hermaphrodite plurimæ in disco, fig. 2. femineæ pauciores, majores, laxæ in radio, fig. 1. propr. hermaph. 1-petala, tubo filiformi, obliquo, limbo ventricoso, oblongo, erecto, terminato laciniis 5-linearibus, erectiusculis, femineis 1-petala, tubo tenui, sensim ampliato, recurvo, limbo oblongo, inæqualiter diviso, subplicato, laciniis lanceolatis.

STAMINA hermaphroditis: FILAMENTA 5, capillaria, brevissima; ANTHERA cylindræa, tubulata, corolla paulo longior.

PISTILLUM hermaphroditis: GERMEN parvum; STYLUS filiformis, longitudine staminum; STIGMA obtusissimum, acumine bifido prominens. Femineis: GERMEN minimum; STYLUS vix ullus; STIGMA nullum.

SEMINA hermaphroditis solitaria; Pappus setaceus, fig. 3.

ROOT annual, somewhat spindle-shaped, woody, and fibrous.

STALK upright, two or three feet high, somewhat angular, covered with a kind of cobwebby down, hollow, branched; the Branches upright, taller than the stalk.

LEAVES of the stalk alternate, sessile, linear, from three to five-ribbed, pointed, the upper side white, and cottony, the underside green, with scarcely any cottony substance, the lowermost radical leaves in the young plant much broader, blunter, and for the most part entire, the next to them more or less toothed or jagged.

FLOWERS of a bright blue colour and scentless; Flower-Stalks simple, thickened above.

CALYX common to all the florets, nearly round, imbricated, scales lanceolate, the inner ones longest, entire, reddish above, fringed at top with little brownish fibres; the outer ones shorter, serrated, the teeth reflexed.

COROLLA compound, flosculose, misshapen; the hermaphrodite florets in the centre numerous, fig. 2. the female florets in the circumference fewer, larger, and loose, fig. 1. each single hermaphrodite floret monopetalous, the tube filiform, oblique, the limb bellying, oblong, upright, terminating in five linear nearly upright segments, the female florets monopetalous, the tube slender, gradually enlarging and bent back, the limb oblong, unequally divided, somewhat folded, the segments lanceolate.

STAMINA of the hermaphrodite flowers: FILAMENTS five, capillary, very short; ANTHERÆ forming a cylindrical tube, a little longer than the corolla.

PISTILLUM of the hermaphrodite flowers: GERMEN small; STYLE filiform, the length of the stamina; STIGMA very blunt, with a prominent bifid point. Of the Female flowers: GERMEN very minute; STYLE scarcely any; STIGMA none.

SEEDS from the hermaphrodite florets, solitary; Pappus or Down bristly, fig. 3.

Few of the vegetable tribes are more hardy than the Corn Blue-Bottle; its seedling plants, which come up abundantly in Autumn, brave the severest frosts.

The radical leaves are entire, those which follow usually toothed, sometimes deeply jagged, hence foliis inferioribus dentatis, would be more proper than infimis.

We have represented a seedling plant, as it appears in the Spring; when the plant flowers, it loses in common with many others its radical leaves, and with them part of its specific character.

It grows abundantly in most of our corn-fields, which it enlivens by the brilliancy of its flowers during the months of June and July: the husbandman views it as a pernicious weed requiring his greatest care to eradicate, as it is not only very injurious to his corn, but blunts the sickles used in reaping it, whence its name of *hurt-sickle* found in some old authors.

Though a troublesome weed, agriculturally considered, the beauty of its flowers has recommended it to the garden, in which it is now regularly sown, as an ornamental plant, with other annuals, and appears with a great diversity of colours.

A fine blue for colouring is said to have been extracted from the blossoms of this plant; we should strongly suspect the durability of colour so obtained: the blue used by my artists in colouring its outermost petals is called azure blue, and may be had, by such as find a difficulty in obtaining good colours, of Mr. WILLIAM GRAVES, Newington, Surrey, principal colourer of this work, whose unwearied care to do justice to his employer, has contributed not a little to advance the reputation both of the Flora Londinensis and Botanical Magazine.





*Lobelia urens*



# LOBELIA URENS. ACRID LOBELIA.

LOBELIA. *Linn. Gen. Pl.* SYNGENESIA MONOGAMIA.

*Cal.* 5-fidus. *Corolla* 1-petala, irregularis. *Capf.* infera, 2-f. 3-locularis.

LOBELIA *urens* caule erectiusculo foliis inferioribus subrotundis crenatis, superioribus lanceolatis ferratis, floribus racemosis. *Linn. Sp. Pl. ed. 3. p. 1321. Mant. p. 482.*

LOBELIA caule erecto, foliis lanceolatis subdentatis, spica laxa longa terminali. *Loefl. it. 167.*

LOBELIA foliis oblongo-ovatis, floribus laxo spicatis. *Guett. Stamp. 1. p. 35. Dalib. Paris. 268.*

RAPUNCULUS galeatus blesensis f. solonienfis flore violaceo minore. *Morif. Hist. 2. p. 407. f. 5. t. 5. f. 56.*

RAPUNTIIUM *urens* solonienfe. *Morif. bleff. 300. Bocc. fic. 20. t. 11. var. 11. 3. Raii Hist. 746. Monnier Obs. 131.*

DRABA flore cæruleo galeato. *Bauh. Prodr. 53. Pin. 110.*

Planta, lactescens, lævis, acris.	The plant milky, smooth, and acrid.
RADIX perennis, fibrosa.	ROOT perennial, fibrous.
CAULIS pedalis ad bipedalem, erectus, ramosus, angulosus.	STALK from one to two feet high, upright, branched, angular.
RAMI adscendentes, tetragoni.	BRANCHES ascending, four-cornered.
FOLIA alterna, sessilia, subdecurrentia, inferiora oblonga, obtusa, basi angustata, varie dentata, apice sæpe trifida, superiora lanceolata, denticulata.	LEAVES alternate, sessile, somewhat decurrent, the lowermost oblong, obtuse, narrowed at the base, variously indented, often trifid at the point, the uppermost lanceolate, finely toothed.
FLORIS violacei, inodori, numerosi, secundi, racemosi.	FLOWER violet-coloured, scentless, numerous, growing to one side in racemi.
RACEMI semipedales, erecti, bracteati.	RACEMI about six inches in length, upright, furnished with bractæ.
BRACTEÆ inferiores lanceolatae, denticulatae, apice tricorne, superioris subulatae, omnibus ad lentem scabriusculis.	BRACTEÆ, the lowermost lanceolate, finely toothed, terminating at top in three little horns, the uppermost awl-shaped, all of them appearing rough if magnified.
FLORES plerumque solitarii, pedunculati, pedunculis brevibus, stipula subulata rubro terminata ad basin utrinque.	FLOWERS usually single, on peduncles, peduncles short, furnished on each side at the base with an awl-shaped stipula tipped with red.
CALYX: PERIANTHIUM superum, persistens, quinquepartitum, laciniis subulatis, patentibus, suprema cæteris paulo longiore, ad lentem hirsutulis, fig. 1.	CALYX: a PERIANTHIUM placed above the germen, continuing, divided into five segments which are subulate and spreading, the uppermost a little longer than the others, slightly hirsute if magnified, fig. 1.
COROLLA monopetala, ad lentem villosula, tubulosa, tubus calyce duplo longior, superne longitudinaliter divisus; Limbus quinquepartitus, bilabiatus; labium inferius tripartitum, laciniis ovato-lanceolatis, acuminatis, dependens, tuberculis duobus albis in fauce notatis, superius bipartitum, laciniis angustioribus, erectis, remotis, paululum recurvis, fig. 2.	COROLLA: monopetalous, slightly villous if magnified, tubular, tube twice the length of the calyx, longitudinally divided above; Limb deeply divided into five segments, two-lipped; under lip tripartite, segments ovato-lanceolate, long-pointed, and depending, at the entrance of the throat marked with two white tubercles, upper lip bipartite, segments narrower, upright, remote from each other, and somewhat bent back, fig. 2.
STAMINA: FILAMENTA quinque, alba, superne connata; ANTHERÆ e fusco-nigricantes, pilis ad margines canescentibus, fig. 3.	STAMINA: five FILAMENTS, of a white colour, united together above; ANTHERÆ of a brownish black colour, with grey hairs on their edges, fig. 3.
PISTILLUM: GERMEN inferum, fulcatum; STYLUS filiformis, longitudine staminum, superne paulo crassior; STIGMA obtusum, villosum, fig. 4.	PISTILLUM: GERMEN below the calyx, grooved; STYLE filiform, the length of the stamina, a little thickened above; STIGMA obtuse and villous, fig. 4.

The *Lobelia urens* is one of our native plants which it has fallen to the lot of very few English Botanists to see, either wild or cultivated, its place of growth being altogether local and confined to a part of the island comparatively but little frequented by Botanists; in France and Spain it is more common: for more than twenty years we were anxiously desirous of obtaining this plant; once we had the mortification of travelling in a stage coach close by the spot where it was said to grow: our wishes were at length gratified by the kindness of the Right Hon. Lord WEBB SEYMOUR, who two years since sent us up roots and specimens, accompanied with a letter, which, as it describes minutely its place of growth and other circumstances, we have taken the liberty to add to our account of this plant.

“ Bradley-House,



" Bradley-House, October 18, 1796.

" S I R,

" Before the arrival of this, you will probably have received a box containing some specimens of the *Lobelia*  
" *urens*, which I sent from Axminster yesterday morning by the coach. I was disappointed in not finding a  
" single plant in flower, having found it last year on the 10th of October in the highest perfection; this  
" difference can only be attributed to the forwardness of the last spring, and the backwardness of the preceding  
" one. It grows in a poor gravelly soil, on the slope of a heath, called Kilminster-Hill, from the parish in  
" which it is situated, and about two miles from Axminster. It is here confined to a spot, not exceeding half  
" an acre, close to the road, and about fifty yards from the entrance of the heath, on the right-hand side in  
" going from Axminster to Honiton. I have been thus particular in the description of the place, as I searched  
" for it in several other parts of the heath (which is extensive) without finding a single plant. It is surrounded  
" by *Ulex europæus*, *Erica vulgaris*, *cinerea*, and *tetralix*, *Betonica officinalis*, and *Serratula tinctoria*, all in a  
" dwarf state, and thrives best when a few inches of the stem are closely covered by other plants.

" I remain,

S I R,

" Your obedient humble Servant,

" WEBB SEYMOUR."

The roots sent, being planted in pots, grew readily, and flowered the ensuing autumn; from the least luxuriant of those our drawing was made: it will be found more branched than the plants usually are on Kilminster-Hill; but not more so, we presume (if we may judge from figures) than the plant is when found wild in other places.

The name of *urens* has been given to this species from its hot and burning taste, not from any stinging quality; it certainly is a very acrimonious plant: the leaves soon after being chewed, excite considerable heat in the mouth, attended sometimes with sickness: Mr. SYDENHAM EDWARDS, my draughtsman, to whose ingenuity I am under great obligations, and who has acquitted himself so honourably and meritoriously towards me, having handled a branch of this plant broken off from the main stem, and afterwards rubbed his eyes slightly, had a violent pain and temporary inflammation excited in them thereby; which however soon went off, on washing them with cold water.

As a rare plant, and indeed as an ornamental one, this species is deserving of culture; it may be raised without any great difficulty from seeds, or increased by parting its roots, which are perennial, not biennial or annual, as authors have made them.







# ORCHIS FUSCA. GREAT ORCHIS.

ORCHIS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

NECTARIUM cornu referens pone florem. *Cor. ringens.*

*Raii Syn. Gen.* 26. HERBÆ BULBOSIS AFFINES.

ORCHIS *fusca* bulbis indivisis, nectarii labio quadrifido; laciniis oblongis, cornu brevi, petalis confluentibus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 809. Jacq. Fl. Austr. v. 4. p. 4. t. 307.*

ORCHIS *militaris* *Linn. Sp. Pl. ed. 3. p. 1334. var. β.*

ORCHIS radicibus subrotundis; spica longa; labello quadrifido; brachiolis angustis, crurculis latis ferratis. *Hall. Hist. Helv. n. 1276. t. 31.*

ORCHIS magna, latis foliis, galea fusca feu nigricante. *J. B. II. p. 759. Raii Syn. ed. 3. p. 378. t. 19. f. 2.*

ORCHIS *militaris* major. *Tourn. Inst. R. Herb. 432. Vaill. par. t. 31. f. 27, 28.*

RADIX: Bulbi duo, oblongi, magni.  
 FOLIA caulina inferiora ovato-oblonga, obtusiuscula, a duabus ad tres uncias lata, glabra, lineata, in quibusdam speciminibus transverse rugosa, læte virentia, superiora angustiora, caulem obvolventia.  
 CAULIS pedalis, ad bipedalem, et ultra, erectus, teres, lævis, inferne viridis, superne purpureus.  
 FLORES numerosi, in spica longa, ovato-cylindracea, imbricatim dense collocati.  
 BRACTEÆ perbreves, vix longitudine calcaris nectarii, ovato-acuminatæ.  
 COROLLA: PETALA 5 in galeam conniventia, tria exteriora ovata, acuta, obsolete 3-nervia, concava, punctis exfusco-purpureis confluentibus notata, duo interiora multo angustiora, oblonga, versus apicem paululum dilatata, pallidiora, punctis purpureis etiam notata, *fig. 1.*  
 NECTARIUM: *Calcar* obtusum, subcompressum, obsolete bifidum, medium germinis vix attingens, albescens: *Labellum* amplum, latum, punctis purpureis prominulis exasperatum, quæ uti Hallerus recte monet brevium pilorum fasciculi sunt, in floribus nuper apertis saturatius purpureum, præsertim ad oras, quadrifidum, laciniæ superiores sublineares, divergentes, inferiores triplo latiores, divergentes, apicibus subtruncatis, eroso-denticulatis, mucrone plerumque intermedio.  
 STAMINA: *Thecæ* flaminum purpureæ, *fig. 2.* FILAMENTA flavescencia, ANTHERÆ subclavatæ, albidæ, *fig. 3.*  
 GERMEN teretiusculum, tortuosum, glabrum, ex fusco viridique varium.

ROOT two, oblong, large Bulbs.  
 LEAVES: those on the lower part of the stalk ovato-oblong, a little blunt, from two to three inches broad, glossy, scored, in some specimens transversely wrinkled, of a lively green colour, the uppermost leaves narrower and surrounding the stalk.  
 STALK a foot, two feet, and sometimes more in height, upright, round, smooth, green below, purple above.  
 FLOWERS numerous, placed close together, one over the other, in a long spike, betwixt ovate and cylindrical.  
 BRACTEÆ very short, scarcely the length of the spur of the nectary, ovato-acuminate.  
 COROLLA: 5 PETALS closing and forming a helmet, the three outermost ovate, pointed, faintly three ribb'd, concave, marked with spots of a brownish purple colour running together, the two innermost ones much narrowest, oblong, a little dilated towards the top, paler, marked also with purple spots, *fig. 1.*  
 NECTARY: the *Spur* blunt, somewhat flattened, slightly bifid, scarcely reaching to the middle of the germen: *Labellum* large, broad, rough, with prominent purple dots, which, as Haller justly observes, are little tufts of short hairs, in flowers lately opened of a deeper purple colour, especially on the edges, divided into four segments, the two uppermost of which are nearly linear and diverging, the two lowermost thrice as broad, diverging, the tips somewhat truncated, irregularly and finely notched, with a short point for the most part between the two.  
 STAMINA: *Cases* of the stamina purple, *fig. 2.* FILAMENTS yellowish, ANTHERÆ somewhat club-shaped, whitish, *fig. 3.*  
 GERMEN roundish, twisted, smooth, variegated with green and brown.

On chalky banks abounding with Milkwort and Juniper, near woods, and in the woods themselves, in many parts of Kent, especially about Rochester, we have had no small pleasure in observing this plant grow in great abundance.

In exposed aspects its usual height is about nine inches, in woods and copses where it is more sheltered, and where the soil is richer, it will acquire the height of two feet or more; such specimens in beauty and grandeur far surpass every British Orchis; its flowers vary exceedingly in colour, some being of a light, others of a deep purple colour, now and then one wholly white occurs; the lip of the nectary, an interesting object for the microscope, varies also in breadth; both root and flowers send forth a strong smell, somewhat like but not so pleasant as Anthoxanthum.

It flowers early in May, and in forward seasons at the close of April, at the same time as the early spotted Orchis, Cowslip, and Harebell.

Our plant is undoubtedly the *Orchis fusca* of JACQUIN, whose name we have adopted, as also the one we have referred to in HALLER, by whom it is represented in a very luxuriant state; LINNÆUS regards it as a variety of his *militaris*; Prof. MURRAY, in the 14th ed. of his *Syst. Vegetab.* follows RAY, HALLER, JACQUIN, VAILLANT, and others, in making it a species.

The same culture which we have recommended for the *Ophrys fucifera* is applicable to this species.





*Orchis fuscata*







# ORCHIS BIFOLIA. BUTTERFLY ORCHIS.

ORCHIS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium* cornu referens pone florem. *Cor.* ringens.

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

ORCHIS *bifolia* nectarii labio lanceolato integerrimo, cornu longissimo, petalis patentibus. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 808. *Sp. Pl. ed.* 3. *p.* 1331. *Scop. Carn. ed.* 2. *n.* 1102. *Huds. Fl. Angl. ed.* 2. *p.* 382. *Fl. Dan. t.* 235.

ORCHIS radicibus oblongis, labello lineari. *Hall. Hist. n.* 1285. *t.* 35.

ORCHIS alba bifolia minor calcari oblongo. *Baub. Pin.* 83.

ORCHIS sphegodes *f* Testiculus vulpinus primus. *Park.* 1351. 7.

HERMAPHRODITICA. Bees Satyrion. *Ger. Herb. p.* 162. *fig.* 1. *emac. p.* 211. *f.* 1.

TESTICULUS psycodes. Gnat Satyrion. *Ger. emac. p.* 211. *f.* 2.

ORCHIS hermaphroditica bifolia. *J. B. II.* 772. *Raii Syn. ed.* 3. *p.* 380. Butterfly Satyrion.

RADIX: bulbi duo, majusculi, ovati, inferne acuminati.

CAULIS pedalis, et ultra, foliosus, lævis, hexagonus, nervis tribus e singulo folio decurrentibus.

FOLIA radicalia plerumque duo, opposita, ovalia, glabra, nervosa, obtusiuscula; caulina lanceolata, sessilia.

FLORES numerosi, ex albido-lutescentes, odorati, in spica longa laxiuscula dispositi.

BRACTEÆ longitudine germinis, lanceolatae, foliis caulinis superioribus simillimæ.

COROLLA: PETALA quinque, tria superiora conniventia, suprema cordata, obtusa, incumbens, planiuscula, marginibus reversis, duo lateralia lanceolata, sibi invicem versus curvata, truncata, duo inferiora majora, alarum instar expansa, ovata, acutiuscula; *Labellum* dependens, alis longior, sublineare, antice convexum, postice concavum, obtusum, inferne virescens, *fig.* 1. *Calcar* germini duplo fere longior, melliferum, diaphanum, tenue, versus apicem virescens, compressiusculum et paulo dilatatum.

STAMINA: FILAMENTA duo, remota; ANTHERÆ flavescentes, *fig.* 2.

PISTILLUM: GERMEN longitudine bractæ, tenue, tortuosum, profunde striatum.

ROOT: two bulbs, somewhat large, ovate, terminating below in long points.

STALK a foot or more in height, leafy, smooth, six-angled, three ribs running down from each leaf.

LEAVES of the root usually two, opposite, ovate, smooth, ribbed, somewhat blunt; those of the stalk lanceolate and sessile.

FLOWERS numerous, of a yellowish-white colour, sweet-scented, disposed in a long and somewhat loose spike.

FLORAL-LEAVES the length of the germen, lanceolate, very like the uppermost leaves of the stalk.

COROLLA: five PETALS, the three uppermost closing together, the uppermost one cordate, obtuse, incumbent, flattish, the edges reversed, the two side ones lanceolate, bent towards each other, truncated, the two lowermost larger, expanded like wings, ovate, and somewhat pointed; *Lip* dependent, longer than the wings, somewhat linear, convex on the fore part, concave behind, obtuse, on the lower part greenish, *fig.* 1. *Spur* almost twice the length of the germen, honey-bearing, transparent, slender, towards the tip greenish, flattened a little, and somewhat spreading.

STAMINA: two FILAMENTS, situated remotely from each other; ANTHERÆ yellowish, *fig.* 2.

PISTILLUM: GERMEN the length of the bractea, slender, twisted, deeply striated.

This species of Orchis has obtained the name of *bifolia*, on account of its radical leaves being usually two in number, and placed opposite to each other; but this character is not perfectly to be relied on, as three are frequently met with, nor are those radical leaves so strictly opposite to each other as some authors have represented them, or as they are in the *Ophrys ovata*; the English name of *Butterfly Orchis* is scarcely warranted by the appearance of the flowers.

If not so common an Orchis as some, it is much more so than others, being found generally throughout the kingdom in woods, pastures, and heaths, especially in soils somewhat stiff and moist; in the first of these situations it is by far the most luxuriant, in the latter it is frequently so dwarfish as to be regarded as a variety; the lip of the nectary is also found to vary considerably in length in different specimens.

It is obviously distinguished from others of the genus by the colour of its blossoms, the extreme length of its spur, the delicious fragrance of its flowers, diffused most in the morning and evening, and which may vie with that of the honeysuckle; but, above all, by the unusual structure of its flowers: below the stigma (remarkably well defined in this species) there is a circular foramen, *fig.* 2. between the cavities containing the stamina, just above the stigma, is a very conspicuous ridge, *fig.* 3. the cases containing the stamina, are placed widely distant from each other, and soon change to a brownish hue; the stamina are very loosely placed within them, and drawn out with the slightest touch; the antheræ are club-shaped, and divided as in most others; the gland at the base of the filament is of a circular form, with a cavity on its inner side, *fig.* 7. and a kind of joint-like projection on its outer part, *fig.* 6. difficult to describe;—taken altogether, this part is wonderfully curious, and deserving of attention.

This species is not so difficult of culture as many others; and, as its roots are large, it appears to be as well calculated for the formation of salep as any other.



# OPHRYS ANTHROPOPHORA. MAN OPHRYS.

OPHRYS *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium* subtus subcarinatum.

*Raii Syn. Gen.* 26. HERBÆ BULBOSIS AFFINES.

OPHRYS *anthropophora* bulbis subrotundis, scapo folioso, nectarii labio lineari tripartito: medio elongato bifido. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 814. *Sp. Pl. ed.* 3. *p.* 1343. *Huds. Fl. Angl. ed.* 2. *p.* 390.

ORCHIS radicibus subrotundis, spica longa, flore inermi, labello perangusto quadrifido. *Hall. Hist. n.* 1264.

ORCHIS *anthropophora* oreades. *Col. Ecph.* 1. 320. *Raii. Syn. ed.* 3. *p.* 379. *Park.* 1348. 7.

ORCHIS flore nudi hominis effigiem representans fœmina. *Bauh. Pin.* *p.* 82. *Vaill. Par.* *p.* 147. *t.* xxxi. *fig.* 19, 20.

RADIX bulbi duo, oblongi, odorati.

SCAPUS pedalis et ultra, foliosus, teres, glaber, superne subangulosus.

FOLIA radicalia in florente planta erectiuscula, ovato-oblonga, obtusiuscula, glaberrima, pallide viridia, caulina pauca, angustiora.

FLORES numerosi conferti, luteo virescentes, in spica subpalmari.

BRACTEÆ lanceolato-acuminatæ, virides, germine breviores, *fig.* 1.

COROLLA: PETALA quinque viridia, in galeam conniventia, *fig.* 3, 4. tria exteriora ovata, obtusa, marginibus rufis, duo interiora-linearia: *Nectarii* labellum petalis longius dependens, flavescens, in quibusdam penitus rufescens, tripartitum, laciniis linearibus, lateralibus subdivergentibus, intermedia elongata bifida, *fig.* 5, 6, paulo infra stigma quod profunde excavatum est, duæ sunt glandulæ pellucidæ, nitidæ, valde conspicuæ.

STAMINA: FILAMENTA 2 brevissima; ANTHERÆ flavæ, *fig.* 7.

PISTILLUM: GERMEN teres, viride, tortuosum, *fig.* 2.

ROOT two oblong bulbs, odoriferous.

STALK a foot or more high, leafy, round, smooth, slightly angular above.

LEAVES next the root in the flowering plant nearly upright, ovato-oblong, somewhat obtuse, perfectly smooth, of a pale green colour, those of the stalk few and more narrow.

FLOWERS numerous, growing thickly together, of a yellowish green colour, in a spike about a hand's-breadth in length.

FLORAL-LEAVES lanceolate, tapering to a point, green, shorter than the germen, *fig.* 1.

COROLLA: five PETALS, of a green colour, closing so as to form a hood, *fig.* 3, 4; the three outermost ovate, obtuse, their edges reddish brown, the two innermost linear: the lip of the nectary longer than the petals, hanging down, yellowish, in some wholly reddish brown, divided into three segments, which are linear, the side ones diverging somewhat, the middle one elongated and bifid, *fig.* 5, 6; a little below the stigma, which is deeply hollowed out, are two pellucid shining glands, very conspicuous.

STAMINA: two FILAMENTS very short; ANTHERÆ yellow, *fig.* 7.

PISTILLUM: GERMEN round, green, twisted, *fig.* 2.

The flowers of this species have been considered as bearing some similitude to the effigies of a man, whence its name: the old authors in their figures of it have improved on this resemblance, at the expence of truth. *Vid. PARKINSON, and others.*

It is a plant common to the more southern parts of Europe, and is found chiefly on calcareous soils, with us principally in dry pastures and old chalk pits, in such situations it is one of the most common of the tribe in Kent; we have found it also plentifully in the chalk pits about Leatherhead and elsewhere.

It varies in size, and in the colour of its flowers, from yellow green to bright ferruginous; flowers in May and June, and is more easily cultivated than many others of the same genus.

The root, and indeed the whole plant, emits a strong odour.



*Ophrys*  
*Anthropophora*









# OPHRYS FUCIFERA. GREEN-WINGED OPHRYS.

OPHRYS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium subtus subcarinatum.*

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

OPHRYS *aranifera* bulbo subrotundo, scapo folioso, nectarii labio subrotundo integro emarginato convexo. *Huds. Fl. Angl. ed. 2. p. 392.*

OPHRYS *insectifera* var. 3 *Linn. Sp. Pl. ed. 3. p. 1343.*

ORCHIS fucum referens colore rubiginoso. *Baub. Pin. p. 83. Vaill. Par. p. 146. t. 31. f. 15. 16. Tourn. Inst. t. 247. CC.*

ORCHIS five Testiculus sphegodes hirsuto flore. *J. B. II. 767. Raii Syn. ed. 3. p. 380. Humble Bee Satyrion with green wings.*

TESTICULUS vulpinus 2 sphegodes. *Humble Bee Orchis. Ger. emac. p. 212. f. 3.*

ORCHIS Sphegodes five fucum referens. The greater Drone Bee flower. *Park. Tb. p. 1350. as to the fig. but not the descr.*

RADIX bulbi duo, subrotundi.

CAULIS semipedalis, humilior elatiorve pro ratione loci, teres, lævis, inferne foliis vaginantibus vestitus.

FOLIA radicalia sesunciam longa, unciam fere lata, ovato-lanceolata, obtusiuscula, lineata, lævia, supra terram expansa, caulina pauca angustiora et acutiora.

FLORES 3—6 in spica rara.

COROLLA: PETALA 5, pallide viridia, tria exteriora majora, longitudine labelli, horum duo opposita, ovato-lanceolata, obtusa, subincurvata, suprema angustata marginibus revolutis; duo interiora breviora, lanceolata, erecta, aut paululum recurvantia, apice plerumque subtruncata: *fig. 1, Labellum* suborbiculatum, inferne concavum, superne convexum, lateribus deflexis, primo purpureo-fusco vivide coloratum, mox flavescent, in medio macula literam Hebraicam ן quodammodo referente sæpius notatum, in diversis floribus diversa, ut in icone exprimitur, villis densis obsitum, prefertim ad latera, ubi plerumque prominet, maculis exceptis, quæ nudæ nitidæquæ sunt.

STAMINA: FILAMENTA duo, albida; ANTHERÆ clavatæ, *fig. 2*, flavescentes; thecæ in quibus continentur, *fig. 3*, per totam longitudinem apertæ, marginibus membranaceis, superne subdiaphanis, ubi color antherarum transparet.

PISTILLUM: STIGMA concavum, purpurascens, utrinque glandula virescente notatum, *fig. 4.*

ROOT two roundish bulbs.

STALK six inches high, shorter or taller according to its place of growth, round, smooth, covered below with leaves embracing it.

LEAVES next the root an inch and a half long, almost an inch broad, ovato-lanceolate, somewhat blunt, marked with impressed lines, smooth, expanding on the ground, those of the stalk few, narrower, and more pointed.

FLOWERS from 3 to 6, in a thin spike.

COROLLA: 5 PETALS of a pale-green colour, the three outermost largest and the length of the labellum, of these the two opposite ones are ovato-lanceolate, obtuse, bent somewhat inwardly, the uppermost one narrowed, with the edges rolled back, the two innermost shorter, lanceolate, upright or bent a little back, generally somewhat truncated at the tip: *fig. 1, the Labellum* nearly orbicular, below concave, above convex, the sides bent down, at first of a bright purple brown colour, soon changing to a yellowish hue, marked in the middle with a spot considerably resembling the Hebrew letter ן, differing however in its form in different flowers, as is expressed in the plate, covered thickly with short hairs, especially at the sides, where it for the most part projects, the spots excepted, which are smooth and glossy.

STAMINA: two FILAMENTS of a whitish colour; ANTHERÆ club-shaped, *fig. 2*, yellowish, the cases in which they are contained, *fig. 3*, open through their whole length, their edges membranaceous, and near the top, so transparent that the colour of the antheræ is seen through them.

PISTILLUM: STIGMA concave, purplish, marked on each side with a greenish gland, *fig. 4.*

The *Ophrys arachnites*, *Linn. Sp. Pl. ed. 3.* a variety of his *insectifera*, comprehends to our certain knowledge three perfectly distinct species, viz.

1. *Orchis araneam* referens, *Baub. Pin.*
2. *Orchis fucum* referens colore rubiginoso, *Baub. Pin.*
3. *Orchis fucum* referens major foliolis superioribus candidis et purpurascens. *Baub. Pin.*

Of these plants LINNÆUS appears to have had a very imperfect knowledge; and HALLER, who particularly directed his attention to the Orchideæ, seems either not to have known, or to have confounded them; the same may be said of MURRAY and GMELIN, in neither of whose editions of LINNÆUS is our *fucifera* or *apifera* enumerated: VAILLANT in his *Botan. Paris.* gives a very just representation of the flowers of the three species, all of which are natives of France, and by those representations may be said to have first clearly ascertained them; for the figures of the older authors want the necessary accuracy. Of the *arachnites*, an excellent print, for the time in which it was executed, is given in the *Hortus Eystettensis*, a library of itself, and to which one cannot but regret that LINNÆUS has so few references; an accurate figure and description of it is also given by HALLER, in his *Hist. Stirp. Helv.* Hitherto, this plant, common to Switzerland, and many parts of Europe, has not been discovered wild in this country; a plant of it in full bloom, and in great perfection



perfection at this present time, June 1, 1794, is the pride of my garden at Brompton: this must be regarded as the true *arachnites* of LINNÆUS, since it is indisputably the same as the one figured by VAILLANT, to which he refers, and the *Orchis araneam referens* of C. BAUHINE, to which he also refers; indeed as such it is admitted by Professor MURRAY, in the 14th edition of the *Systema Vegetab.* with a suitable specific description according with that of HALLER. It is evident that Mr. HUDSON, when he gave to the species here figured, the name of *aranifera* (a term synonymous with that of *arachnites*) and which he was the first to describe specifically in the Linnæan style (though RAY in his *Synopsis* had pointed out its striking character) regarded the *arachnites* of LINNÆUS and the 9 variety of it as the same species, from his referring to two different figures in VAILLANT for his plant; this he ought not to have done, but following LINNÆUS's reference to BAUHINE, have selected the term *fucifera*, which we have been under the necessity of doing, rather than be subject to the confusion arising from having two different plants called by synonymous terms.

Our plant is the *Ophrys*, commonly known in this country by the name of the Bee Orchis with green wings, the petals being altogether of an herbaceous colour; while in the *apifera*, already figured, three of them are pale purple; as they differ in colour, so do they also very materially in shape, and as these differences are invariable, any other mark of discrimination is almost superfluous, yet we may observe, that they flower at two very different periods, the *fucifera* has sometimes been found in mild seasons in bloom as early as March, in late ones in May, while the *apifera* rarely flowers till the end of June or beginning of July.

Some authors have fancied that the flowers of this plant bore a resemblance to a bee or a spider, it must be confessed that much of this similitude depends on the imagination; others have discovered a more real likeness to a small bird in each flower: this appearance will be obvious to our readers on inspecting the plate. When a trifling likeness of this sort has occurred in plants, or animals, the old authors generally improved on it; even TOURNEFORT's figure of this part of our plant is somewhat *outré* in this respect.

In this species the nectary, which at first is of a bright and very rich brown colour, soon changes to a faded yellow green; when the flowering is over, the petals incline forward, and close over the nectary.

Though the *Ophr. apifera* is found abundantly near London, this species has not yet been observed equally near; we have seen it growing, though very sparingly, in the chalk pits near Leatherhead; in the neighbourhood of Bury, in Suffolk; also, about Cambridge it is found some years in great abundance: from the former place we have been favoured with roots of it by Sir TH. G. CULLUM, Bart. and from the latter by Professor MARTYN, and the Rev. J. DAVIES, of Trinity-College: it has been observed also in various other parts of the kingdom.

Such as delight in the culture of flowers will be pleased to find, that with a little attention and management they may succeed in making this plant grow and flower with them more freely than many of the tribe; we recommend to them the following method, which we have found successful: take up the roots carefully when in flower, bare them no more than is necessary to remove every other kind of root about them, fill a large-sized garden pot with three parts choice loam moderately stiff, and one part chalk mixed well together and passed through a sieve somewhat finer than a common cinder sieve, in this mixture place your roots at about the depth of two inches, and three inches apart, water them occasionally during summer if the weather prove dry, at the approach of winter place your pot in a frame under a glass to keep them from wet and frost, which combined destroy the beauty of the foliage, if not the plant itself; in the autumn, before any of the others make their appearance, you will perceive the leaves of this species emerge, much sooner indeed than might be expected.









*Carex ventricosa*

T. Edwards del.

W.P.



# CAREX VENTRICOSA. TURGID CAREX.

CAREX. Linn. Gen. Pl. MONOECIA TRIANDRIA.

Masc. *Amentum* imbricatum. *Cal.* monophyllus. *Cor.* o.

Fem. *Amentum* imbricatum. *Cal.* monophyllus. *Cor.* o. *Nectarium* inflatum tridentatum. *Stigmata* tria. *Sem.* triquetrum intra nectarium.

*Raii Syn. Gen.* 28. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

CAREX *ventricosa*, spicis pedunculatis erectis, mascula solitaria, femineis remotis paucifloris, capsulis turgidis rostratis.

CYPEROIDES nemorosum, caule exquisitè triangulari, spicis parvis strigosis, inter se distantibus, squamis latis, derepentè in aristam longiusculam attenuatis, capsulis rariùs dispositis turbinatis gibbis trilateris cum rostrulo adunco. *Michel. Nov. Gen.* p. 61. tab. 32. fig. 5.

RADIX perennis, fibrosa.

CULMUS pedalis ad sesquipedalem, erectus, foliosus, triquetus.

FOLIA patulo-erecta, lineas duas lata, carinata, lævia, margine aspera, basi vaginantia, sub florescentia culmo longiora.

## FLOS MASCULUS.

SPICA terminalis, solitaria, subuncialis, erecta, multiflora, ebracteata, subfusca.

CALYX: SQUAMA subovata, acuminata, dorso viridi, lateribus ex albo et fusco variegatis, fig. 1.

STAMINA: FILAMENTA tria, capillaria, calyce longiora. ANTHERÆ longæ, lineares, fig. 2.

## FLOS FEMINEUS.

SPICÆ plerumque tres, remotiusculæ, spica mascula dimidio breviores, oblongo-ovatae, subquadri-floræ, pedunculatæ, bracteatae. PEDUNCULI compressi, superne incrassati. BRACTEÆ foliis fimiles, culmum superantes.

CALYX: SQUAMA lanceolata, acuta, dorso viridi, lateribus albis nitentibus, fig. 3.

NECTARIUM oblongum, extus convexum, intus concavum, rostratum, pistillum arcte cingens, fig. 4.

PISTILLUM: GERMEN obovatum intra nectarium, fig. 5. STYLUS germine duplo longior, fig. 6. STIGMATA tria, patentia villosa, fig. 7.

PERICARPIUM: CAPSULA triquetra-gibba, turgida, striata, utrinque acuta, rostro apice membranaceo, fig. 8.

SEMINA solitaria, magna, hinc convexa, inde planiuscula, fig. 9. intra nectarium.

ROOT perennial and fibrous.

STALK from a foot to a foot and a half high, upright, leafy, and three-cornered.

LEAVES upright, somewhat spreading, two lines wide, keeled, smooth, rough on the edge, sheathing at the base, higher than the stalk, when the plant flowers.

## MALE FLOWER.

SPIKE terminal, solitary, about an inch long, upright, many-flowered, without a bractea, brownish.

CALYX: SCALE somewhat ovate, acuminate, green at the back, the sides variegated with white and brown, fig. 1.

STAMINA: three FILAMENTS, capillary, longer than the calyx. ANTHERÆ long, linear, fig. 2.

## FEMALE FLOWER.

SPIKES mostly three, remote, half the length of the male one, oblongo-ovate, mostly four-flowered, standing on flower-stalks, and furnished with bractea. FLOWER-STALKS compressed, thickened above. BRACTEÆ resembling the leaves, higher than the stalk.

CALYX: SCALE lanceolate, acute, green at the back, the sides white, shining, fig. 3.

NECTARY: oblong, the outside convex, the inside concave, closely surrounding the pistillum, fig. 4.

PISTILLUM: GERMEN obovate, within the nectary, fig. 5. STYLE double the length of the germ, fig. 6. STIGMATA three, spreading, villous, fig. 7.

PERICARPIUM: a CAPSULE three-cornered, gibbous, striated, turgid, pointed at both ends, with a beak membranaceous at the point, fig. 8.

SEEDS single, large, convex on one side, flattish on the other, fig. 9. within the nectary.

My much-valued friend, the Rev. Dr. GOODENOUGH of Ealing, has the merit of discovering the Carex here figured; we were herbarizing together, in company with the Rev. Dr. WHITFIELD, in a small wood at the back of Charlton Church, when a single plant of it first caught his eye, and on further search we found it in one part of the wood in abundance; Mr. DICKSON informs me that he has observed the same species growing wild near Godalming, Surrey; and we are informed that it has also been found by Mr. SOLE, of Bath.

The late Rev. Mr. LIGHTFOOT, who had seen it growing with me, was pleased to call it *depauperata*, from the paucity of its flowers, a name in which we sometime acquiesced; but, on maturer consideration, we think the name we have now given it more expressive of its principal character.

It affects the same situation as the *sylvatica*, to which, in its foliage, it bears some little resemblance, but when it comes to shew its seed-vessels it cannot easily be mistaken for any other British Carex.

It flowers about the latter end of May, but is most conspicuous towards the middle of June, when its seed-vessels are advanced.



# URTICA DIOICA. COMMON NETTLE.

URTICA. Linn. Gen. Pl. MONOECIA TETRANDRIA.

MASC. Cal. 4-phyllus. Cor. o. Nectarium centrale, cyathiforme.

FEM. Cal. 2-valvis. Cor. o. Sem. 1. nitidum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS.)

URTICA dioica, foliis oppositis cordatis, racemis geminis. Linn. Syst. Veg. p. 849. Spec. Pl. 1396. Fl. Suec. 863. Scopoli Fl. Carn. ed. 2. n. 1175.

URTICA stirpibus sexu distinctis, foliis ferratis, ovato-lanceolatis, productis. Hall. Hist. 1614.

URTICA major vulgaris. J. Baub. III. 445. major vulgaris et media sylvestris. Park. 440. urens. Ger. emac. 706. maxima. Baub. Pin. 232.

URTICA racemifera major perennis. Raii Syn. p. 139. Common Stinging-Nettle. Hudf. Fl. Angl. p. 418. Lightf. Fl. Scot. p. 578.

RADIX perennis, repens, teretiuscula, subfulcata, tenax, flavescens, geniculata, fibras majusculas e geniculis emittens.

CAULES plures, bi ad quadripedales, erecti, vix ramosi, obtuse tetragoni, quadrifurcati, pilis rigidis hispidi.

FOLIA opposita, petiolata, cordata, acuminata, late ferrata, supra rugosa, venosa, utrinque pilis subulatis, urentibus hispida.

STIPULÆ quatuor, patentes, lineares, obtusiusculæ, subtus compresso-canaliculatæ.

FLORES dioici, in racemis quaternis, ramosis, deflexis, pubescenti-hispidis, glomeratim dispositi.

## MASCULI FLORES.

CALYX: PERIANTHIUM quadripartitum, laciniis patentibus, ovatis, obtusis, concavis, subtus scabris, fig. 1.

COROLLA nulla.

NECTARIUM in centro floris, turbinatum, subdiaphanum, apice obtusum, perforatum.

STAMINA: FILAMENTA quatuor, subulata, longitudine calycis, patentia, intra singulam laciniam calycinam singula, instante anthesi elastice profolientia. ANTHERÆ biloculares, albæ, fig. 2.

## FEMINEI FLORES.

CALYX: PERIANTHIUM quadripartitum, persistens; laciniis duabus interioribus majoribus, germen cingentibus; duabus exterioribus minimis, patentibus, fig. 3.

COROLLA nulla.

PISTILLUM: GERMEN ovatum. STYLUS nullus. STIGMA patens, penicilliforme, album, fig. 4, 5.

PERICARPIUM nullum. Calycis laciniae internæ, conniventes, fig. 6. includunt.

SEMEN unicum, ovatum, obtuso-compressum, nitidum, fig. 7, 8.

ROOT perennial, creeping, roundish, slightly furrowed, tough, yellowish, jointed, sending down from the joints some pretty large fibres.

STALKS many, from two to four feet high, upright, very little branched, bluntly quadrangular, each side furrowed, beset with rigid hairs.

LEAVES opposite, standing on foot-stalks, heart-shaped, acuminate, widely serrated, the upper side wrinkled and veiny, on both sides beset with awl-shaped, stinging hairs.

STIPULÆ four, spreading, linear, bluntish, the under side compressed and channelled.

FLOWERS dioicous, dispersed in small clusters, in racemi growing four together, which are branched, bending downward, and beset with fine as well as coarse hairs.

## MALE FLOWERS.

CALYX: a PERIANTHIUM divided into four segments, spreading, ovate, obtuse, concave, beneath roughish, fig. 1.

COROLLA none.

NECTARY in the centre of the flower, turbinated, almost transparent, blunt and perforated at the top.

STAMINA: four FILAMENTS awl-shaped; length of the calyx, spreading, one in each segment of the calyx, on shedding of the pollen springing out by their elasticity. ANTHERÆ bilocular, whitish, fig. 2.

## FEMALE FLOWERS.

CALYX: a permanent PERIANTHIUM divided into four segments; the two inner ones larger, surrounding the germen; the two outer ones very small, spreading, fig. 3.

COROLLA none.

PISTILLUM: GERMEN ovate. STYLE none. STIGMA spreading, feathery, white, fig. 4, 5.

SEED-VESSEL none. The two inner segments of the Calyx closing and including the seed, fig. 6.

SEEDS single, ovate, blunt, compressed, whitish, shining, fig. 7, 8.

The name of *dioica* is given to this species of Nettle, from its producing male flowers on one plant, and female on another; it is however not always dioicous, as we have frequently observed female flowers on the male plant in great numbers.

It grows abundantly by the sides of hedges, in neglected fields, gardens, and pastures, and flowers from June to September.

Baron HALLER has observed, that in its fructification it has great affinity with the *Parietaria*, which is certainly just; the pollen in particular is discharged in the same curious way. (See *Parietar. offic.* already figured.)

The genus *Urtica* is a numerous one, there being twenty-eight species enumerated in the 14 ed. of LINNÆUS's *Systema Vegetabilium*; all of which however do not sting, as the three species indigenous to this country are well known to do: the naked eye readily perceives the instruments by which the Nettle infils its poison; a microscope of no great magnifying power more plainly discovers them to be rigid, transparent, tubular setæ, prickles, or stings, highly polished and exquisitely pointed, furnished at their base with a kind of bulb, in which the juice is principally contained, and which being pressed on when the sting enters the skin, forces the poison into the wound; of the venomous quality of this liquid, and of the manner in which it is emitted, I have had ocular proof: placing the footstalk of a Nettle leaf\* (the prickles being more manageable, and better adapted to the microscope than those on the leaves or stalks) on the stage of the microscope, so that the whole of the prickle was in the focus when horizontally extended, I pressed on the bulb with a blunt-pointed pin, and, after some trials, found a liquid to ascend in the prickle, somewhat as the quicksilver does when a warm hand is applied to the

\* The *Urtica pilulifera* was the one made use of.





*Urtica dioica*

Herb. Jan. 1. 1791 by W. Curtis Sc. Goussier Goussier





*Urtica urens.*



the bulb of a thermometer; in some of the prickles I observed the liquid stationary, on pressing such in particular I saw most plainly the liquor ascend to, and flow copiously from its very extremity, see *fig. 9*. I was the more anxious to see this, as I suspected the poison might proceed from an aperture in the side of the sting, near the point, as in the forceps of the spider, and tooth of the viper, and where it appears to be placed, rather than at the extremity, that it may not take off from its necessary sharpness.

Pricking the skin of my hand with a needle, I placed some of the juice on the wound, when it instantly inflamed, and put on all the appearance of a part stung by a Nettle.

It has been observed, that such as handle this plant roughly, rarely feel the effects of its sting; while others, from slightly touching it, experience it in all its force; this circumstance is happily expressed by AARON HILL:

“Tender-handed stroke a Nettle,  
“And it stings you for your pains;  
“Grasp it like a man of mettle,  
“And it soft as silk remains.”

Notwithstanding its roughness and stinging quality, many of the poorer people seek Nettle-tops in the spring with great avidity, as a pot-herb, neglecting the more luxuriant Chickweed, almost equal to spinach, growing perhaps abundantly just by it; others religiously put them in diet-drinks at the same period, expecting to have their whole mass of blood so purified as to be free from disease for twelve months at least.

Mr. LIGHTFOOT informs us in his *Fl. Scot.* that in Arran, and other islands of Scotland, a rennet is made of a strong decoction of Nettles; a quart of salt is put to three pints of the decoction, and boiled up for use; a common spoonful of this liquor will coagulate a large bowl of milk very readily, and agreeably, as he saw and experienced.

The stalk of the Nettle is found to have a texture somewhat like that of Hemp, and to be capable of being manufactured into cloth, ropes, and paper.

The old writers on the *Materia Medica*, are profuse in their encomiums on the virtues of the Nettle, as they are on those of most other plants; but, excepting the benefit which may arise from its external application, its virtues we apprehend are extremely problematical.

Urtication, or whipping with Stinging-Nettles, is an old practice, and recommended in various disorders, especially lethargy, palsy, or numbness of any particular limb, rheumatic pains, &c.

The Nettle is refused by cattle in general; hence we often see pastures, orchards, &c. disfigured by large patches of them, which, as the root is perennial and creeping, are every year increasing; the agriculturist who wishes to improve and embellish his fields, will lose no time in extirpating such. There are some, however, who think differently of this plant; HALLER says, that it affords excellent food for cattle, especially milch cows; that it has even been cultivated, and that advantageously, in Sweden for feeding kine. *Hall. Hist. p. 287.*

Though this plant is not remarkably advantageous either to man or beast, it affords nourishment to a great number of insects; it is the only food of the caterpillars of three of our most beautiful Butterflies, viz. the *Atalanta*, *Paphia*, and *Urtica*, the principal food of a fourth, the *Iö*, which I have this year found also on the Hop, and the occasional food of a fifth, the *C. album*, which feeds also on the hop and the elm; two of our moths also feed on it, viz. the *urticata* and the *verticalis*; besides these, which are the principal insects found on the Nettle with us, a great number of other indiscriminate feeders devour its foliage. The base of the leaves in autumn is extremely liable to be disfigured by tubercles, which, if opened, are found to contain small maggots, which probably produce the *Musca Urticae* of LINNÆUS; but of this we hope to speak with more certainty when we treat of the *Urtica pilulifera*.

## URTICA URENS. SMALL NETTLE.

URTICA *urens* foliis oppositis ovalibus. *Linn. Syst. Veg. p. 849. Spec. Pl. p. 1396. Fl. Suec. 863. Scopoli Fl. Carn. ed. 2. n. 1174.*

URTICA *sexubus* sede disjunctis, foliis ovato-lanceolatis, julis oblongis. *Hall. Hist. 1615.*

URTICA *minor*. *Ger. emac. 707. minor annua. J. Bauh. III. 446. urens minor. Bauh. Pin. 232. racemifera minor annua. Raii Syn. p. 140. The lesser Stinging-Nettle, Hudf. Fl. Angl. p. 417. Lightf. Fl. Scot. p. 578.*

Differt a dioica, planta tertia parte humiliore; floribus monoicis; radice annua, alba; caulibus ramifloribus; foliis multo minoribus et rotundioribus; stipulis vix conspicuis; racemis multo brevioribus, minusque ramosis. Differs from the dioica, in being scarcely one-third as tall; having male and female flowers on the same plant; the root annual, white; stalks much branched; leaves much smaller and rounder; stipulæ less conspicuous; racemi much shorter in proportion.

There appears to be no reason for applying the term *urens* to this species in particular, as several of the others are equally pungent.

Of annual weeds, this Nettle is one of the very worst, especially in light, manured soils, each plant producing an immense number of seeds, and that in a shorter time than most others; PARKINSON observes, that it will “beare ripe seed twice in one year;” the young plants are therefore to be cut up with the hoe as soon as they appear. The great advantage of early hoeing cannot be too strongly impressed on the minds of Farmers and Gardeners.

### Reference to the Parts of Fructification.

*Fig. 1.* the Calyx of the female flower. *Fig. 2.* the Calyx of the male flower. *Fig. 3.* the Stamina.  
*Fig. 4.* the Pistillum. *Fig. 5.* the Seed. *Fig. 6.* the same magnified.





*Salix monandra.*



# SALIX MONANDRA. BITTER WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ.* Cor. o. *Glandula* baseos nectarifera.

FÆM. *Amenti squamæ.* Cor. o. *Stylus* 2-fidus. *Capf.* 1-locularis, 2-valvis.  
*Sem.* papposa.

*Raii Syn. Gen.* 28. ARBORES ET FRUTICES.

SALIX *monandra* foliis ferratis, glabris, lineari-lanceolatis, superioribus obliquis. *Hoffman Hist. Salic.* p. 18.

SALIX *purpurea* foliis ferratis glabris lanceolatis, inferioribus oppositis. *Lin. Syst. Vegetab.* p. 879. *Sp. Pl.* p. 1444. *Fl. Suec.* n. 884.

SALIX *Helix* foliis ferratis glabris lanceolato-linearibus: superioribus oppositis obliquis. *Lin. Syst. Vegetab.* p. 879. *Sp. Pl.* p. 1444.

SALIX *monandra*, foliis glabris, lineari-lanceolatis, ferratis, superne conjugatis, julis tomentosis. *Hall. Hist.* n. 1640.

SALIX *purpurea.* *Scöpoli Fl. Carn.* n. 1209. DIAGN. *squamæ monandræ.*

SALIX *monandra.* *Arduin. Memor.* 1. *Spec.* 67. *tab.* 11.

SALIX *humilior* foliis angustis subcæruleis ex adverso binis. *Raii Syn.* 448. The yellow dwarf Willow.

SALIX *Helice Theophrasti Lugdun.* p. 277. *Huds. Fl. Angl. ed. 2.* p. 427. *Lightfoot Fl. Scot.* p. 597.

FRUTEX mediocris, debilis, ramosus, in arbusculum nobiscum sæpe excrefcens, in septentrionali parte Angliæ multo humilior.

RAMI tenues, teretes, viminei, tenacissimi, nitidi, cortice cinereo, olivaceo, seu purpurascnte, nobiscum raro intense purpureo.

FOLIA nunc opposita, nunc alterna, idque in eadem planta, petiolata, lanceolata, versus apicem latiora, apice acuta, basi obtusa, semunciam circiter lata, multo etiam latiora, *fig. 6.* et angustiora occurrunt, margine nunc undique ferrata, nunc superne tantum, etiam integerima, lævia, superne e cæruleo viridia, subtus glauca, idque semper quoad observavimus, avenia, nervo medio albido, glandulis destituta, *sapore amarissimo.*

PETIOLUS brevis, basi latior.

AMENTA *mascula* plurima, subterminalia, nunc opposita, idque alterne, nunc alterna, subsessilia, pollicaria, cylindræa, compacta, erectiuscula, sæpe incurvata, primum e rufo-nigricantia, lanugine incana, exsertis antheris pulchre aurantiaca; *squamæ* subrotundæ, concavæ, pilosæ, ad medium usque nigræ, intus sæpe rubellæ, demum reflexæ, *fig. 1.*

STAMEN: FILAMENTUM unicum, squamâ duplo longius, filiforme, pilosum; ANTHERA majuscula, *fig. 2.* quadrangula, *quadriloba*, primo aurantiaca, dein flava, demum nigricans.

NECTARIUM: *Glandula* truncata, emarginata, flavescens, sessile, *fig. 3.*

AMENTA *feminea*, masculis quoad formam similia, at flavescencia, et minus contorta, *fig. 5.*

PISTILLUM: GERMEN ovatum, subglobosum, sessile; STYLUS vix ullus; STIGMA bilabiatum, flavescens, labiis emarginato bifidis, demum e rufo nigricantibus, *fig. 4.*

A SHRUB of a middling size, weak, branched, with us often growing up into a small tree, in the North of England of much humbler growth.

BRANCHES slender, round, twiggy, extremely tough, glossy, the bark ash-coloured, olive, or purplish, seldom of a deep purple with us.

LEAVES now opposite, now alternate, and that in the same plant, standing on footstalks, lanceolate, broadest towards the tip, pointed at the end, obtuse at the base, about half an inch in breadth, but much broader, *fig. 6.* and much narrower leaves occur, the edge sometimes ferrated throughout, sometimes above only, even perfectly entire, smooth, above of a blueish green colour, beneath glaucous, and that always, as far as we have observed, veinless, the midrib whitish, without glands, and of an extremely bitter taste.

LEAF-STALK short, broadest at the base.

CATKINS of the *male plant* numerous, somewhat terminal, sometimes opposite, and that alternately so, sometimes alternate, nearly sessile, about an inch in length, cylindrical, compact, nearly upright, often bowed, at first of a reddish black colour, covered with a grey down, when the antheræ put forth, of a beautiful orange; *scales* roundish, concave, hairy, black as far as the middle, often reddish within, finally reflexed, *fig. 1.*

STAMEN: one FILAMENT twice the length of the scale, filiform, hairy; ANTHERA largish, *fig. 2.* quadrangular, *composed of four lobes*, at first orange-coloured, then yellow, lastly blackish.

NECTARY: a *Gland* truncated, emarginated, yellowish, and sessile, *fig. 3.*

CATKINS of the *female*, similar in shape to those of the male, but yellowish and less distorted, *fig. 5.*

PISTILLUM: GERMEN ovate, almost globular, sessile; STYLE scarcely any; STIGMA forming two lips, yellowish, the lips slightly bifid, finally of a reddish black colour, *fig. 4.*



The Willows are a tribe of plants, not less distinguished for their great utility in rural œconomy, than for the difficulty which has hitherto attended the ascertaining the several species : it will, perhaps, be found, that this difficulty is not peculiar to the Willows, but that a vast many other plants are subject to an equal inconstancy of appearance from similar causes : we are not to be disheartened in our researches, because we meet with difficulties, they ought rather to incite us to a more diligent examination, and if we do not succeed at one time, we probably shall at another ; we have found by experience that the eye does not at all times possess the same degree of acuteness, and that the character of a plant, which, at one period, has been overlooked, at another, has formed its most prominent feature.

Impressed with these ideas, we set about investigating the Willows, with the greater pleasure, indeed, as we find, on examining them, that the parts of fructification, hitherto but little noticed, are capable of throwing a great light on the subject : the stamina in some, and the pistilla in others, differ in their appearance beyond expectation. Thus the male plant of the present species, if every other character were wanting, would be distinguished when in flower from our other Willows, by its stamina alone ; each scale of the catkin produces one filament only ; hence, according to Linnæan usage, it is called monandrous : but, it is very remarkable, that though there is only one filament, it supports two antheræ, and hence, in strict propriety, it may be considered as diandrous. The antheræ, before they open, are of a bright orange colour, and impart to the catkin an appearance strikingly beautiful ; the female catkins are similar in shape, but want the brilliancy of the male.

Unfortunately the flowering period in the Willows is of short duration ; during the greatest part of the summer, we have no flowers to assist us in our investigations, and even during that period, it frequently happens, especially in the cultivated Willows, which are usually raised from cuttings, that we can discover one sex only ; it is not so, indeed, in those Willows which are more in a state of nature, yet, when the flowering is over, size, mode of growth, leaves, stipulæ, or some other part of the plant, will generally afford a good specific character.

The present species, when out of bloom, is particularly distinguished by the length, as well as delicate slenderness of its twigs, and its subglaucous spurge-like leaves, but, above all, by their extreme bitterness when chewed ; it is for this reason we have called it the *bitter Willow*.

These several characters, which are not liable to vary, and some of which are always present, will, if in the least degree attended to, readily discriminate this species. The leaves of most of the Willows are unfortunately subject to a great diversity of appearance, from a variety of causes ; those of the monandra are by no means exempt from this inconstancy of appearance ; they vary greatly, both in size and breadth, and still more in the notchings of the leaves (see the description) the stalks also vary greatly in colour, being sometimes almost yellow : the leaves on the summits of the twigs are sometimes found towards the end of August, of a brilliant red colour, which produces a most charming effect ; this singularity is, however, confined to particular plants : the tops of the branches are sometimes found expanded in this Willow into little squamous heads, somewhat resembling roses, whence, by some, it has been called *rose Willow* ; this is the effect of an insect, and, of course, accidental.

The *Salix monandra* grows sparingly in the neighbourhood of London, it is found most commonly in hedges, sometimes in osier-grounds, where it is accidentally introduced ; in some parts of the North of England, there is no Willow more common ; it is the earliest in bloom of any of the Willows we are acquainted with, flowering in mild seasons, by the end of February, usually before the *Caprea*.

The extreme bitterness of the leaves and twigs of this species, renders it very valuable for many purposes. When used as a band or withe, it is never eaten by vermin ; nor, when formed into a hedge, is it browsed on by cattle ; even insects prey on it much less readily than on the other species. In some parts of Yorkshire, its twigs are used for making the finest sorts of basket-work ; and, from the observations we have made, we should think it might be advantageously cultivated for such purposes. By way of experiment, we one year planted a row of cuttings of all the common Willows, and were surprised to find, that the very longest one-year's shoot was that of the bitter Willow ; it exceeded even that of the Osier (*Salix viminalis*) which was the next longest.

The bark of some of the Willows has been used as a substitute for the Peruvian Bark in the cure of agues ; that of the present species, from its extreme bitterness, may probably prove more efficacious.

The leaves of this plant become of a blueish black colour in drying.

Professor HOFFMAN, who has published some very accurate figures and descriptions of the Willows, indisputably proves, that the *purpurea* and *belix* of LINNÆUS are one and the same species ; he, therefore, considering them as such, rejects both those names, and adopts that of ARDUINI ; concurring, from the most perfect conviction, in opinion with the learned Professor, we follow him in this instance of reform.









*Salix triandra.*



SALIX TRIANDRA. THREE-THREADED WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ.* Cor. 0. *Glandula* baseos nectarifera.

FÆM. *Amenti squamæ.* Cor. 0. *Stylus* 2-fidus. *Caps.* 1-locularis; 2-valvis; *Sem.* papposa.

*Raii Syn. Gen.* ARBORES ET FRUTICES.

SALIX *triandra* foliis ferratis glabris, floribus triandris. *Lin. Syst. Vegetab.* p. 879. *Sp. Pl.* p. 1442.

SALIX foliis glabris, elliptico-lanceolatis, ferratis; stipulis dentatis; julis gracilibus triandris. *Hall. Hist. n.* 1637.

SALIX *triandra.* *Scopoli Fl. Carn. ed. 2.* p. 259.

SALIX folio amygdalino utrinque virente aurito. *Baub. Pin.* 473.

SALIX folio amygdalino utrinque aurito corticem abjiciens. Almond-Leaved Willow that casts its Bark. *Raii Syn. ed. 3.* p. 448.

SALIX folio auriculato splendente flexilis. *Raii Syn. ed. 3.* p. 448. The round-ear'd Shining Willow. *Huds. Fl. Angl. ed. 2.* p. 425.

FRUTEX orgyalis et ultra, in arbusculum mediocrem nonnunquam exsurgens, corticem quotannis abjiciens, undique ramosus.

RAMI erecti, subvirgati, teretes, versus summitates angulati, profunde sulcati, tenaces, flexiles aut etiam fragiles presertim ad genicula, cortice e cinereo aut fusco virescente aut flavescente, foliosi.

FOLIA alterna, longitudine tripollicaria, latitudine fere pollicaria, in ramis junioribus triplo majora, lanceolata, acuta, ferrata, ferraturis cartilagineis, prominentibus, glabra, nitentia, supra saturate viridia, subtus pallidiora, nervo medio albido, prominulo, basi glandulis aliquot sæpius occupata, petiolata, petiolo femunciali, canaliculato.

STIPULÆ in quibusdam ramis nullæ, in plerisque binæ ad basin petioli, auriformes, rugosæ, crenulatæ, superne glandulosæ.

AMENTA mascula numerosa, ante anthesin longitudine fere pollicaria, subcylindracea, tomento sericeo obducta, lutescente-viridia, odorata, post pollinis emissionem longitudine bipollicaria et ultra: foliola quinque lanceolata, utrinque nitentia, pilosa, subtus pallidiora ad basin cujusvis amenti.

SQUAMA ad basin singuli floris pallide viridis, parum rugosa, margine apiceque pilosa, fig. 1.

STAMINA: FILAMENTA plerumque tria, sub pollinis emissionem squamâ duplo longiora; ANTHERÆ subrotundæ, biloculares, lutescentes, fig. 2.

NECTARIUM: Glandula minuta, truncata, ad germinis basin, fig. 3.

AMENTA feminea numero et longitudine masculis similia, illis viridiora et minus spectabilia.

SQUAMÆ obtusæ, rugosæ, lutescentes, sub florescentia ad dimidiam germinis altitudinem attingentes, fig. 4.

GERMEN oblongum, acuminatum, fig. 5.

STIGMATA duo, brevia, obtusa, horizontalia, bifida, fig. 6.

A SHRUB six feet or more in height, sometimes growing up to a middle-sized tree, casting its bark yearly, branched on all sides.

BRANCHES upright, somewhat twiggy, towards the extremity angular or deeply grooved, tough, flexible, or even brittle, especially at the joints, covered with an ash-coloured, brownish-green, or yellowish bark, thickly set with leaves.

LEAVES alternate, three inches in length, and almost one in breadth, in the younger branches thrice as large, lanceolate, pointed and ferrated, the ferratures or teeth cartilaginous and prominent, smooth, glossy, of a deep green colour above and pale beneath, the midrib whitish, and somewhat prominent, most commonly beset with some glands at the base, standing on footstalks, half an inch in length, scooped.

STIPULÆ in some of the branches none, but in most a pair at the base of the leaf-stalk, ear-shaped, wrinkled, notched, and glandular on the upper side.

CATKINS of the male plant numerous, before the antheræ put forth almost an inch long, nearly cylindrical, covered with a silky down, of a yellowish green colour; when all the antheræ have shed their pollen, they extend two inches or more in length: five small lanceolate leaves, glossy on both sides, hairy and somewhat paler on the under side, are placed at the base of each catkin.

The SCALE at the base of each floret, is of an uniform pale green colour, hairy on both edges as well as the tip, and somewhat wrinkled, fig. 1.

STAMINA: FILAMENTS mostly three, becoming on the shedding of the pollen as long again as the scale; ANTHERÆ roundish, yellow and bilocular, fig. 2.

NECTARY: a minute Glandule, truncated, at the base of the Germen, fig. 3.

CATKINS of the female, similar in number and length to those of the male, but greener and less fleshy.

SCALES obtuse, wrinkled, yellowish, when properly in blossom extending half-way up the germen, fig. 4.

GERMEN oblong, tapering, fig. 5.

STIGMATA two, short, obtuse, spreading horizontally, and bifid, fig. 6.



The Willows in general are more distinguished for their uses in rural œconomy, than as ornamental trees or shrubs; nevertheless, many of them come under the latter description, and with them we may rank the present species, more indeed on account of its flowers than its foliage. When suffered to grow, it acquires the size of a small tree, and the catkins being unusually numerous, render the male plant in particular, in which they are of a bright yellow colour, and agreeable scent, an object highly pleasing among other flowering shrubs or trees.

In all Willows planted for ornament, the male tree is to be preferred; not only because its catkins are the most brilliant, while the foliage is the same as that of the female, but because the females, when planted by themselves, quickly shed their catkins, which make a litter.

The leading character of this Willow, when in flower, is its three stamina to each floret; now and then, indeed, two only occur, but not sufficiently often to destroy the excellency of the character: when out of flower, it is distinguishable by yearly casting the bark of its trunk when of a certain age (whether every individual does this or not, I am not certain; a tree of this species in my garden has constantly done it for many years); its leaves are more strongly serrated than most others; the branches in autumn are usually furnished with stipulæ, but not always: and they have another character which I have found of great consequence in determining this species; towards the top they are angular or grooved, in a greater degree than any other Willow I have examined.—It is not usual for Willows to flower spring and autumn, but we have frequently found this species to do so.

In its tree state, it grows sparingly in hedges about town; in the open-grounds it is not uncommon, being cultivated as a Basket Willow; it flowers the beginning of *May*; the bark has more astringency but less bitterness than the *Salix monandra*, and has been found efficacious in curing intermitting fevers.

We strongly suspect that the *amygdalina* is no other than this species.



# INDEX,

IN WHICH

The Plants of the fourth, fifth, and sixth Fasciculi, or second Volume, are arranged according to the System of LINNÆUS.

Latin Name.

English Name.

Class and Order.

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2 Salvia verbenaca ..... Wild Clary or Sage .....  
 3 Ligustrum vulgare ..... Privet or Prim .....  
 4 Veronica triphyllos ..... Speedwell trifold .....  
 5 Veronica scutellata ..... Speedwell bog .....  
 6 Veronica Anagallis ..... Speedwell water .....  
 7 Veronica montana ..... Speedwell mountain .....  
 } DIANDRIA Monogynia.

8 Valeriana officinalis ..... Valerian wild .....  
 9 Valeriana dioica ..... Valerian marsh .....  
 10 Valeriana Locusta ..... Corn-salad .....  
 11 Scirpus maritimus ..... Club-rush round-rooted .....  
 12 Eriophorum polystachion ..... Cotton-grass many-headed .....  
 13 Eriophorum vaginatum ..... Cotton-grass single-headed .....  
 } TRIANDRIA Monogynia.

14 Agrostis fetacea ..... Bent-grass Sheep's-fescue-leav'd .....  
 15 Aira caryophyllea ..... Hair-grass silver .....  
 16 Alopecurus geniculatus ..... Foxtail-grass jointed or flote .....  
 17 Alopecurus pratensis ..... Foxtail-grass meadow .....  
 18 Bromus diandrus ..... Brome-grass diandrous .....  
 19 Bromus giganteus ..... Brome-grass tall .....  
 20 Festuca elatior ..... Fescue-grass tall .....  
 21 Festuca pratensis ..... Fescue-grass meadow .....  
 22 Festuca loliacea ..... Fescue-grass darnel .....  
 23 Hordeum murinum ..... Barley-grass wall .....  
 24 Melica cærulea ..... Melic-grass blue .....  
 25 Melica uniflora ..... Melic-grass single-flower'd .....  
 26 Melica nutans ..... Melic-grass mountain .....  
 27 Milium effusum ..... Millet-grass wood .....  
 28 Panicum Crus-galli ..... Panic-grass loose .....  
 29 Panicum sanguinale ..... Panic-grass cock's-foot .....  
 30 Panicum viride ..... Panic-grass green .....  
 31 Panicum verticillatum ..... Panic-grass rough .....  
 32 Poa retroflexa ..... Meadow-grass reflexed .....  
 33 Poa procumbens ..... Meadow-grass procumbent .....  
 34 Poa aquatica ..... Meadow-grass water or reed .....  
 } TRIANDRIA Digynia.

35 Asperula odorata ..... Woodruff sweet-scented .....  
 36 Galium verum ..... Bedstraw yellow .....  
 37 Plantago media ..... Plantain hoary .....  
 38 Scabiosa arvensis ..... Scabious field .....  
 39 Sherardia arvensis ..... Sherardia field .....  
 } TETRANDRIA Monogynia.

40 Sagina apetala ..... Pearl-wort annual .....  
 41 Potamogeton crispum ..... Pond-weed curled .....  
 } TETRANDRIA Tetragynia.

42 Lycopsis arvensis ..... Bugloss field .....  
 43 Lyfimachia nemorum ..... Moneywort wood .....  
 44 Lyfimachia vulgaris ..... Loose-strife yellow .....  
 45 Vinca major ..... Periwinkle great .....  
 46 Cynoglossum officinale ..... Hounds-tongue common .....  
 47 Samolus Valerandi ..... Water-pimpernel round-leav'd .....  
 48 Campanula rotundifolia ..... Bell-flower heath or round-leav'd .....  
 49 Symphytum officinale ..... Comfrey common .....  
 50 Menyanthes trifoliata ..... Buck-bean .....  
 51 Primula acaulis ..... Primrose .....  
 52 Primula officinalis ..... Cowslip .....  
 53 Primula farinosa ..... Bird's-eye .....  
 54 Pulmonaria maritima ..... Lungwort sea .....  
 55 Datura Stramonium ..... Thorn-apple .....  
 56 Atropa Belladonna ..... Dwale or deadly Nightshade .....  
 57 Chironia Centaurium ..... Centaury .....  
 } PENTANDRIA Monogynia.



# I N D E X.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
58 Chærophyllyllym sylvestre . . . . .	Cow-parfley common . . . . .	} PENTANDRIA Digynia.
59 Chærophyllyllym temulum . . . . .	Cow-parfley fmall . . . . .	
60 Bunium Bulbocaftanum . . . . .	Earth or pig-nut . . . . .	
61 Scandix Peften . . . . .	Shepherd's-Needle . . . . .	
62 Caucahis Anthrifeus . . . . .	Caucahis hedge . . . . .	
63 Caucahis infefta . . . . .	Caucahis corn . . . . .	
64 Hydrocotyle vulgaris . . . . .	Penny-wort marfh or White-rot . . . . .	
65 Chenopodium rubrum . . . . .	Goofe-foot fmall feeded . . . . .	
66 Chenopodium murale . . . . .	Goofe-foot nettle-leaved . . . . .	
67 Chenopodium hybridum . . . . .	Goofe-foot thorn-apple-leav'd . . . . .	} PENTANDRIA Pentagynia.
68 Chenopodium olidum . . . . .	Blite or Orach ftinking . . . . .	
69 Linum ufitatiffimum . . . . .	Flax common . . . . .	PENTANDRIA Polygynia.
70 Myofurus minimus . . . . .	Moufe-tail . . . . .	PENTANDRIA Trigynia.
71 Scilla autumnalis . . . . .	Squill autumnal . . . . .	} HEXANDRIA Monogynia.
72 Leucojum æftivum . . . . .	Snow-flake fummer . . . . .	
73 Juncus fylvaticus . . . . .	Rufh great hairy wood . . . . .	
74 Juncus pilofus . . . . .	Rufh fmall hairy wood . . . . .	
75 Peplis Portula . . . . .	Water-Purflane . . . . .	
76 Convallaria majalis . . . . .	Lily of the Valley . . . . .	} HEXANDRIA Trigynia.
77 Rumex Acetofella . . . . .	Sorrel fheeps . . . . .	
78 Alifma Plantago . . . . .	Water-plantain great . . . . .	} HEXANDRIA Polygynia.
79 Alifma Damafonium . . . . .	Water-plantain ftarry-headed . . . . .	
80 Erica vulgaris . . . . .	Heath common . . . . .	OCTANDRIA Monogynia.
81 Polygonum amphibium . . . . .	Perficaria amphibious . . . . .	} OCTANDRIA Trigynia.
82 Polygonum convolvulus . . . . .	Buck-wheat climbing . . . . .	
83 Saxifraga oppofitifolia . . . . .	Saxifrage purple . . . . .	} DECANDRIA Digynia.
84 Saxifraga hirculus . . . . .	Saxifrage marfh . . . . .	
85 Silene anglica . . . . .	Catchfly Englifh . . . . .	} DECANDRIA Trigynia.
86 Arenaria trinervia . . . . .	Chickweed plantain-leav'd . . . . .	
87 Arenaria ferpyllifolia . . . . .	Chickweed thyme-leav'd . . . . .	
88 Stellaria uliginofa . . . . .	Stichwort bog . . . . .	
89 Spergula faginoides . . . . .	Spurrey pearlwort . . . . .	} DECANDRIA Pentagynia.
90 Spergula nodofa . . . . .	Spurrey knotted . . . . .	
91 Spergula arvenfis . . . . .	Spurrey corn . . . . .	
92 Ceraftium pumilum . . . . .	Moufe-ear-Chickweed dwarf . . . . .	
93 Ceraftium tetrandrum . . . . .	Moufe-ear-Chickweed tetrandrous . . . . .	
94 Ceraftium arvenfe . . . . .	Moufe-ear-Chickweed corn . . . . .	
95 Sedum fexangulare . . . . .	Stonecrop infipid . . . . .	} DODECANDRIA Digynia.
96 Agrimonia Eupatoria . . . . .	Agrimony . . . . .	
97 Euphorbia exigua . . . . .	Spurge fmall . . . . .	DODECANDRIA Trigynia.
98 Spiræa Ulmaria . . . . .	Meadow-fweet . . . . .	ICOSANDRIA Pentagynia.
99 Tormentilla officinalis . . . . .	Tormentil officinal . . . . .	} ICOSANDRIA Polygynia.
100 Rofa canina . . . . .	Rofe dog . . . . .	
101 Glaucium corniculatum . . . . .	Horned-Poppy red . . . . .	} POLYANDRIA Monogynia.
102 Ciftus guttatus . . . . .	Ciftus spotted-flower'd . . . . .	
103 Ciftus Helianthemum . . . . .	Ciftus dwarf . . . . .	
104 Papaver dubium . . . . .	Poppy long fmoth-headed . . . . .	
105 Papaver Argemone . . . . .	Poppy long prickly-headed . . . . .	
106 Clematis Vitalba . . . . .	Travellers-joy . . . . .	} POLYANDRIA Polygynia.
107 Ranunculus Flammula . . . . .	Spearwort fmall . . . . .	
108 Ranunculus arvenfis . . . . .	Crowfoot corn . . . . .	
109 Ranunculus repens . . . . .	Crowfoot creeping . . . . .	
110 Ranunculus hederaceus . . . . .	Crowfoot ivy-leav'd . . . . .	
111 Anemone apennina . . . . .	Anemone mountain . . . . .	
112 Helleborus viridis . . . . .	Hellebore green . . . . .	
113 Meliffa Nepeta . . . . .	Calamint field . . . . .	} DIDYNAMIA Gymnofpermia.
114 Melittis Meliffophyllum . . . . .	Baftard-Balm . . . . .	
115 Galeopsis verficolor . . . . .	Galeopsis parti-coloured . . . . .	
116 Stachys arvenfis . . . . .	Stachys corn . . . . .	
117 Galeobdolon Galeopsis . . . . .	Archangel yellow . . . . .	
118 Prunella vulgaris . . . . .	Self-heal . . . . .	
119 Origanum vulgare . . . . .	Marjoram wild . . . . .	
120 Teucrium Scorodonia . . . . .	Germander fage-leav'd . . . . .	
121 Scutellaria minor . . . . .	Hooded-willow-herb fmall . . . . .	



# I N D E X.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
122 Euphrasia officinalis . . . . .	Eyebright common . . . . .	} DIDYNAMIA <i>Angiospermia.</i>
123 Rhinanthus Crista galli . . . . .	Yellow rattle or Cock's-comb . . . . .	
124 Scrophularia aquatica . . . . .	Figwort water . . . . .	
125 Antirrhinum Peloria . . . . .	Peloria . . . . .	
126 Antirrhinum minus . . . . .	Toad-flax least . . . . .	
127 Antirrhinum Orontium . . . . .	Snapdragon small . . . . .	
128 Orobanche major . . . . .	Broom-rape common . . . . .	
129 Sinapis arvensis . . . . .	Charlock . . . . .	} TETRADYNAMIA <i>Siliquosa.</i>
130 Sinapis alba . . . . .	Mustard white . . . . .	
131 Raphanus Raphanistrum . . . . .	Radish wild . . . . .	
132 Cardamine hirsuta . . . . .	Ladies-smock hairy . . . . .	
133 Turritis glabra . . . . .	Tower-mustard smooth . . . . .	
134 Sisymbrium terrestre . . . . .	Water-radish annual . . . . .	
135 Sisymbrium Irio . . . . .	Rocket London . . . . .	
136 Sisymbrium Nasturtium . . . . .	Water-cress . . . . .	
137 Erysimum officinale . . . . .	Hedge-mustard . . . . .	
138 Thlaspi campestre . . . . .	Mithridate-mustard . . . . .	} TETRADYNAMIA <i>Siliculosa.</i>
139 Thlaspi arvense . . . . .	Penny-cress . . . . .	
140 Iberis nudicaulis . . . . .	Rock-cress . . . . .	
141 Geranium parviflorum . . . . .	Crane's-bill small-flowered . . . . .	} MONADELPHIA <i>Decandria.</i>
142 Geranium dissectum . . . . .	Crane's-bill jagged . . . . .	
143 Geranium pratense . . . . .	Crane's-bill Crowfoot . . . . .	
144 Malva moschata . . . . .	Mallow musk . . . . .	MONADELPHIA <i>Polyandria.</i>
145 Fumaria capreolata . . . . .	Fumitory ramping . . . . .	DIADELPHIA <i>Hexandria.</i>
146 Vicia Cracca . . . . .	Vetch tufted . . . . .	} DIADELPHIA <i>Decandria.</i>
147 Lathyrus Aphaca . . . . .	Vetchling yellow . . . . .	
148 Lathyrus Nissolia . . . . .	Vetch crimson grass . . . . .	
149 Lathyrus sylvestris . . . . .	Vetchling narrow-leaved . . . . .	
150 Spartium scoparium . . . . .	Broom common . . . . .	
151 Ornithopus perpusillus . . . . .	Bird's-foot common . . . . .	
152 Trifolium scabrum . . . . .	Trefoil rough . . . . .	
153 Trifolium arvense . . . . .	Trefoil hare's-foot . . . . .	
154 Trifolium ochroleucum . . . . .	Clover yellow . . . . .	
155 Trifolium glomeratum . . . . .	Trefoil round-headed . . . . .	
156 Trifolium procumbens . . . . .	Trefoil procumbent . . . . .	
157 Hypericum quadrangulum . . . . .	St. John's-wort square-stalked . . . . .	POLYADELPHIA <i>Polyandria.</i>
158 Hieracium Pilosella . . . . .	Moose-ear . . . . .	} SYNGENESIA <i>Polygamia Æqualis.</i>
159 Hieracium umbellatum . . . . .	Hawk-weed bushy . . . . .	
160 Leontodon hirtum . . . . .	Dandelion deficient . . . . .	
161 Leontodon hispidum . . . . .	Dandelion rough . . . . .	
162 Crepis tectorum . . . . .	Succory-Hawkweed smooth . . . . .	
163 Sonchus arvensis . . . . .	Sow-thistle corn . . . . .	
164 Sonchus palustris . . . . .	Sow-thistle marsh . . . . .	
165 Cichorium Intybus . . . . .	Succory blue . . . . .	
166 Prenanthes muralis . . . . .	Wild-lettuce ivy-leaved . . . . .	
167 Bidens tripartita . . . . .	Hemp-agrimony trifid . . . . .	
168 Carduus tenuiflorus . . . . .	Thistle slender-flowered . . . . .	
169 Carduus polyacanthos . . . . .	Thistle prickliest . . . . .	
170 Carduus palustris . . . . .	Thistle marsh . . . . .	
171 Carduus arvensis . . . . .	Thistle cursed . . . . .	
172 Onopordum Acanthium . . . . .	Cotton-thistle . . . . .	
173 Arctium Lappa . . . . .	Burdock . . . . .	
174 Chrysanthemum Leucanthemum . . . . .	Ox-eye daisy . . . . .	} SYNGENESIA <i>Polygamia Superflua.</i>
175 Chrysanthemum segetum . . . . .	Corn-marigold . . . . .	
176 Achillea Ptarmica . . . . .	Sneeze-wort . . . . .	
177 Achillea Millefolium . . . . .	Yarrow . . . . .	
178 Senecio erucæfolius . . . . .	Ragwort hoary . . . . .	
179 Anthemis Cotula . . . . .	May-weed stinking . . . . .	
180 Matricaria Chamomilla . . . . .	Camomile corn . . . . .	
181 Centaurea Cyanus . . . . .	Blue-bottle corn . . . . .	SYNGENESIA <i>Polygamia Frustranea.</i>
182 Jasione montana . . . . .	Sheeps-scabious hairy . . . . .	} SYNGENESIA <i>Monogamia.</i>
183 Lobelia urens . . . . .	Lobelia acrid . . . . .	
184 Orchis latifolia . . . . .	Orchis marsh . . . . .	} GYNANDRIA <i>Diandria.</i>
185 Orchis fusca . . . . .	Orchis great . . . . .	
186 Orchis bifolia . . . . .	Orchis butterfly . . . . .	
187 Ophrys spiralis . . . . .	Ladies-traces . . . . .	
188 Ophrys fucifera . . . . .	Ophrys green-winged . . . . .	
189 Ophrys anthropophora . . . . .	Ophrys man . . . . .	



# I N D E X.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
190 <i>Carex riparia</i> . . . . .	Carex great . . . . .	} <i>MONOECIA Triandria.</i>
191 <i>Carex acuta</i> . . . . .	Carex acute . . . . .	
192 <i>Carex gracilis</i> . . . . .	Carex slender-spiked . . . . .	
193 <i>Carex ventricosa</i> . . . . .	Carex turgid . . . . .	
194 <i>Sparganium ramosum</i> . . . . .	Burr-reed great . . . . .	
195 <i>Sparganium simplex</i> . . . . .	Burr-reed small . . . . .	
196 <i>Urtica dioica</i> . . . . .	Nettle common or great . . . . .	
197 <i>Urtica urens</i> . . . . .	Nettle small . . . . .	
198 <i>Salix monandra</i> . . . . .	Willow bitter . . . . .	} <i>DIOECIA Diandria.</i>
199 <i>Salix triandra</i> . . . . .	Willow triandrous . . . . .	
200 <i>Mercurialis annua</i> . . . . .	Mercury annual . . . . .	<i>DIOECIA Enneandria.</i>
201 <i>Holcus lanatus</i> . . . . .	Soft-grass meadow . . . . .	} <i>POLYGAMIA Monoecia.</i>
202 <i>Holcus mollis</i> . . . . .	Soft-grass creeping-rooted . . . . .	
203 <i>Parietaria officinalis</i> . . . . .	Pellitory of the wall . . . . .	
204 <i>Equisetum arvense</i> . . . . .	Horse-tail corn . . . . .	<i>CRYPTOGAMIA Filices.</i>
205 <i>Bryum barbatum</i> . . . . .	Bryum bearded . . . . .	} <i>CRYPTOGAMIA Musci.</i>
206 <i>Phascum acaulon</i> . . . . .	Phascum common . . . . .	
207 <i>Phascum subulatum</i> . . . . .	Phascum heath . . . . .	
208 <i>Jungermannia complanata</i> . . . . .	Jungermannia flat . . . . .	<i>CRYPTOGAMIA Algæ.</i>
209 <i>Agaricus aurantius</i> . . . . .	Mushroom orange . . . . .	} <i>CRYPTOGAMIA Fungi.</i>
210 <i>Agaricus æruginosus</i> . . . . .	Mushroom verdigris . . . . .	
211 <i>Agaricus floccosus</i> . . . . .	Mushroom shaggy . . . . .	
212 <i>Agaricus procerus</i> . . . . .	Mushroom tall . . . . .	
213 <i>Agaricus velutipes</i> . . . . .	Mushroom velvet-stalked . . . . .	
214 <i>Agaricus carnosus</i> . . . . .	Mushroom fleshy . . . . .	
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216 <i>Boletus lucidus</i> . . . . .	Boletus lacquer'd . . . . .	
217 <i>Phallus caninus</i> . . . . .	Morell red-headed . . . . .	





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